4179483-GB-Rev B

JACOBSEN®
A Textron Company

Parts & Maintenance Manual

AR-522™

68098 – AR-522, Kubota® V2403-MT, 4WD, with ROPS

⚠ WARNING

WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.

JACOBSEN®
A Textron Company

When Performance Matters.™

GB
United Kingdom

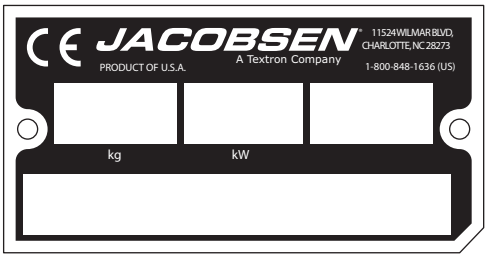
FOREWORD

This manual contains adjustment, maintenance, troubleshooting instructions and a parts list for your new Jacobsen machine. This manual should be stored with the equipment for reference during operation.

Before you operate your machine, you and each operator you employ should read the manual carefully in its entirety. By following the safety, operating and maintenance instructions, you will prolong the life of your equipment and maintain its maximum efficiency.

If additional information is needed, contact your Jacobsen Dealer.

The serial plate is located on the right rear frame rail. Jacobsen recommends you record these numbers below for easy reference.



Suggested Stocking Guide

To keep your equipment fully operational and productive, Jacobsen suggests you maintain a stock of the more commonly used maintenance items. We have included part numbers for additional support materials and training aids.

To order any of the following material:

1. Write your full name and complete address on your order form.
2. Explain where and how to make shipment:
   - ❑ UPS
   - ❑ Regular Mail
   - ❑ Overnight
   - ❑ 2nd Day
3. Order by the quantity desired, the part number, and the description of the part.
4. Send or bring the order to your authorized Jacobsen Dealer.

Service Parts

Qty.	Part No.	Description	Qty.	Part No.	Description
	4113986	Engine Oil Filter		4131618	Ignition Key
	557619	Engine Fuel Filter Element		4123183	Headlight Bulb
	4133820	Primary Air Cleaner Filter		4163106	Blade, Combination
	4133821	Safety Air Cleaner Filter		4137186	Blade, High Lift
	555771	Hydraulic Filter Element		4124087	Blade, Low Lift
	4134323	Engine Fan Belt			

Service Support Material

Qty.	Part No.	Description
	4179484	Safety & Operation Manual
	4179483	Parts & Maintenance Manual
	4179556	DVD, Operator Training
	4192126	Diesel Engine Parts Manual

Qty.	Part No.	Description
	4192020	Service Manual

2006/42/EC These are the Original instructions verified by Jacobsen A Textron company.

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Proposition 65 Warning

This product contains or emits chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

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1 SAFETY

1.1 OPERATING SAFETY

WARNING

EQUIPMENT OPERATED IMPROPERLY OR BY UNTRAINED PERSONNEL CAN BE DANGEROUS.
Familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

1. Safety is dependent upon the awareness, concern and prudence of those who operate or service the equipment. Never allow minors to operate any equipment.
2. It is your responsibility to read this manual and all publications associated with this equipment (Safety & Operation Manual, Engine Manual, and attachments/accessories instruction sheets). If the operator cannot read English it is the owner's responsibility to explain the material contained in this manual to them.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Never allow anyone to operate or service the machine or its attachments without proper training and instructions, or while under the influence of alcohol or drugs.
5. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands, and feet. Operate the machine only in daylight or in good artificial light.
6. Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by Jacobsen.
7. Stay alert for holes in the terrain and other hidden hazards.
8. Inspect the area where the equipment will be used. Pick up all the debris you can find before operating. Beware of overhead obstructions (low tree limbs, electrical wires, etc.) and also underground obstacles (sprinklers, pipes, tree roots, etc.). Enter a new area cautiously. Stay alert for hidden hazards.
9. Never direct discharge of material toward bystanders, nor allow anyone near the machine while in operation. The owner/operator can prevent and is responsible for injuries inflicted to themselves, to bystanders, and damage to property.
10. Do not carry passengers. Keep bystanders and pets a safe distance away.
11. Never operate equipment that is not in perfect working order or is without decals, guards, shields, discharge deflectors or other protective devices securely fastened in place.
12. Never disconnect or bypass any switch.
13. Do not change the engine governor setting or overspeed the engine.
14. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation or in an enclosed area.
15. Fuel is highly flammable, handle with care.
16. Keep the engine clean. Allow the engine to cool before storing and always remove the ignition key.
17. Disengage all drives and engage parking brake before starting the engine (motor). Start the engine only when sitting in operator's seat, never while standing beside the unit.
18. Equipment must comply with the latest federal, state, and local requirements when driven or transported on public roads. Watch out for traffic when crossing or operating on or near roads.
19. Local regulations may restrict the age of the operator.
20. Operate the machine up and down the face of slopes (vertically), not across the face (horizontally).
21. To prevent tipping or loss of control, do not start or stop suddenly on slopes. Reduce speed when making sharp turns. Use caution when changing directions.
22. Always use the seat belt when operating mowers equipped with a Roll Over Protective Structure (ROPS).

    Never use a seat belt when operating mowers without a ROPS.

    Accessory operator protective structures will continue to be offered for all equipment currently covered. This allows for the outfitting of any machines without previous ROPS installations or replacement of damaged structures.
23. Keep legs, arms, and body inside the seating compartment while the vehicle is in motion.
24. Disconnect battery and controller electrical connectors before performing any welding on this mower.

This machine is to be operated and maintained as specified in this manual and is intended for the professional maintenance of specialized turf grasses. It is not intended for use on rough terrain or long grasses.

1.2 IMPORTANT SAFETY NOTES

This safety alert symbol is used to alert you to potential hazards.

DANGER - Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING - Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

NOTICE - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage. It may also be used to alert against unsafe practices.

For pictorial clarity, some illustrations in this manual may show shields, guards, or plates, open or removed. Under no circumstances should this equipment be operated without these devices securely fastened in place.

WARNING

The Interlock System on this mower prevents the mower from starting unless the brake lever is engaged, mower switch is OFF and traction pedal is in Neutral. The system will stop the engine if the operator leaves the seat without engaging the parking brake or setting the mower switch OFF.

NEVER operate mower unless the Interlock System is working.

WARNING

1. Before leaving the operator's position for any reason:
   a. Return traction pedal to Neutral.
   b. Disengage all drives.
   c. Lower all implements to the ground.
   d. Engage parking brake.
   e. Stop engine and remove the ignition key.
2. Keep hands, feet, and clothing away from moving parts. Wait for all movement to stop before you clean, adjust, or service the machine.
3. Keep the area of operation clear of all bystanders and pets.
4. Never carry passengers, unless a seat is provided for them.
5. Never operate mowing equipment without the discharge deflector securely fastened in place.

By following all instructions in this manual, you will prolong the life of your machine and maintain its maximum efficiency. Adjustments and maintenance should always be performed by a qualified technician.

If additional information or service is needed, contact your Authorized Jacobsen Dealer who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service.

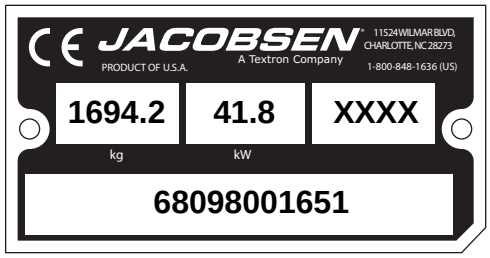
2 SPECIFICATIONS

2.1 PRODUCT IDENTIFICATION

68098 ..... AR-522, 5 Gang 4WD with ROPS

Serial Number ..... An identification plate, like the one shown, listing the serial number, is attached to the frame of the mower and is located on the operator's right just over the rear axle.

Always provide the serial number of the unit when ordering replacement parts or requesting service information.



Product	EEC Sound Power	Sound Pressure Level Operator Ear	Vibration M/S^2	
			Arms	Body
68098	105 dBA	90 dBA	3.72	.055

2.2 V2403-M-T ENGINE

Make ..... Kubota
Model ..... V2403-M-T Diesel, 4 cycle, liquid cooled
Horsepower ..... 59 Hp (44 kW) @ 2700 rpm
Bore ..... 3.43 in. (87 mm)
Stroke ..... 4.03 in. (102.4 mm)
Displacement ..... 148 in^3 (2434 cm^3)
Torque ..... 122 ft. lbs. (165 Nm) @ 1600 rpm
Fuel:
- Type ..... No. 2 Diesel
- Rating ..... Min. cetane rating 45
- Capacity ..... 17 U.S. gal. (65 liters)

Governor Setting:
- High Idle ..... 2850 rpm
- Low Idle ..... 1050 rpm

Lubrication:
- Capacity ..... 10 U.S. qts.(9.5 liter)
- Type ..... SAE 10W30
- API Classification ..... CD/CE

Air Filter ..... Donaldson, dual element dry type with evacuator valve and service indicator.

2.3 MOWER

Tires:
- Front ..... 26.5 x 14 - 12: (6 ply)
- Rear ..... 22.5 x 10 - 8

Tire Pressure:
- Front ..... 16 psi (1.11 BAR)
- Rear ..... 12 psi (0.83 BAR)

Battery:
- Type ..... 12V, 600 Cold Cranking Amps
- Group ..... BCI 24

Brakes:
- Service ..... Dynamic braking through traction circuit.
- Parking ..... 9.25 in. (235 mm) front disc

Speed:
- Mow ..... 0 - 7 mph (0 - 11 kph)
- Transport ..... 0 - 12 mph (0 -19.3 kph)
- Reverse ..... 0 - 5 mph (0 - 8.1 kph)

Production ..... 6.8 acres/hr. @ 7 mph

Hydraulic System:

Capacity ..... 14 U.S. gal. (37.85 liter)
Fluid Type ..... 10W30 or Greens Care 68
Cooling ..... Oil Cooler
Return Line Filter ..... 10 micron
Steering ..... Hydrostatic power steering

2.4 WEIGHTS AND DIMENSIONS

Dimensions:	**Inches**	**(mm)**
Length	130	(3302)
Height - Top of ROPS	83	(2108)
Height - Top of ROPS with Canopy	91	(2311)
Width - Mow	98	(2486)
Width - Transport	98	(2489)
Weight:	**Lbs.**	**(kg)**
Overall (less operator)	3805	(1726)

2.5 CUTTING UNITS

Overall cutting Width .....90 in. (2.54 m)
Number of cutting units: ..Five - three front, two rear.

Height of Cut .....3/4 to 5-1/4 in. (19 to 133 mm) in 1/4 in. (6 mm) increments

2.6 ACCESSORIES

Refer to the Parts Catalog and contact your Jacobsen Dealer for a complete listing of accessories and attachments.

⚠ CAUTION

Use of other than Jacobsen authorized parts and accessories may cause personal injury or damage to the equipment.

Orange Touch-up Paint (12 oz. spray) 554598
Replacement 2-Post ROPS with Seat Belt.....67844
Canopy / Sunshade..... 68095
Hood Locking Latch..... 1004049

Wheel Kit..... 68090
High Lift Blade..... 4137186

2.7 SUPPORT LITERATURE

Contact your Jacobsen Dealer for a complete listing of literature.
Safety & Operation Manual 4179484
Parts & Maintenance Manual 4179483
Engine Parts Catalog 4192126
Service & Repair Manual. 4181383

2.8 DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY ▪ ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ ▪ PROHLÁŠENÍ O SHODĚ ▪ OVERENSSTEMMELSESERKLÆRING ▪ CONFORMITEITSVERKLARING ▪ VASTAVUSDEKLARATSIOON ▪ VAATIMUSTENMUKAISUUSVAKUUTUS ▪ DECLARATION DE CONFORMITE ▪ KONFORMITÄTSERKLÄRUNG ▪ ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ▪ MEGFELELŐSÉGI NYILATKOZAT ▪ DICHIARAZIONE DI CONFORMITÀ ▪ ATBILSTĪBAS DEKLARĀCIJA ▪ ATITIKTIES DEKLARACIJA ▪ DIKJARAZZJONI TAL-KONFORMITÀ ▪ DEKLARACJA ZGODNOŚCI ▪ DECLARAÇÃO DE CONFORMIDADE ▪ DECLARAŢIE DE CONFORMITATE ▪ VYHLÁSENIE O ZHODE ▪ IZJAVA O SKLADNOSTI ▪ DECLARACIÓN DE CONFORMIDAD ▪ DEKLARATION OM ÖVERENSSTÄMMELSE

Business name and full address of the manufacturer ▪ Търговско име и пълен адрес на производителя ▪ Obchodní jméno a plná adresa výrobce ▪ Producentens firmanavn og fulde adresse ▪ Bedrijfsnaam en volledig adres van de fabrikant ▪ Tootja ärinimi ja täielik aadress ▪ Valmistajan toiminimi ja täydellinen osoite ▪ Nom commercial et adresse complète du fabricant ▪ Firmenname und vollständige Adresse des Herstellers ▪ Επωνυμία και ταχυδρομική διεύθυνση κατασκευαστή ▪ A gyártó üzleti neve és teljes címe ▪ Ragione sociale e indirizzo completo del fabbricante ▪ Uzņēmuma nosaukums un pilna ražotāja adrese ▪ Verslo pavadinimas ir pilnas gamintojo adresas ▪ Isem kummerċjali u indirizz sħiħ tal-fabbrikant ▪ Nazwa firmy i pełny adres producenta ▪ Nome da empresa e endereço completo do fabricante ▪ Denumirea comercială şi adresa completă a producătorului ▪ Obchodný názov a úplná adresa výrobcu ▪ Naziv podjetja in polni naslov proizvajalca ▪ Nombre de la empresa y dirección completa del fabricante ▪ Tillverkarens företagsnamn och kompletta adress	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA
Product Code ▪ Код на продукта ▪ Kód výrobku ▪ Produktkode ▪ Productcode ▪ Toote kood ▪ Tuotekoodi ▪ Code produit ▪ Produktcode ▪ Κωδικός προϊόντος ▪ Termékkód ▪ Codice prodotto ▪ Produkta kods ▪ Produkto kodas ▪ Kodiċi tal-Prodott ▪ Kod produktu ▪ Código do Produto ▪ Cod produs ▪ Kód výrobku ▪ Oznaka proizvoda ▪ Código de producto ▪ Produktkod	68098
Machine Name ▪ Наименование на машината ▪ Název stroje ▪ Maskinnavn ▪ Machinenaam ▪ Masina nimi ▪ Laitteen nimi ▪ Nom de la machine ▪ Maschinenbezeichnung ▪ Ονομασία μηχανήματος ▪ Gépnév ▪ Denominazione della macchina ▪ Iekārtas nosaukums ▪ Mašinos pavadinimas ▪ Isem tal-Magna ▪ Nazwa urządzenia ▪ Nome da Máquina ▪ Numele echipamentului ▪ Názov stroja ▪ Naziv stroja ▪ Nombre de la máquina ▪ Maskinens namn	AR-522
Designation ▪ Предназначение ▪ Označení ▪ Betegnelse ▪ Benaming ▪ Nimetus ▪ Tyyppimerkintä ▪ Pažymėjimas ▪ Bezeichnung ▪ Χαρακτηρισμός ▪ Megnevezés ▪ Funzione ▪ Apzīmējums ▪ Lithuanian ▪ Denominazzjoni ▪ Oznaczenie ▪ Designação ▪ Specificaţie ▪ Označenie ▪ Namen stroja ▪ Descripción ▪ Beteckning	Lawnmower, Article 12, Item 32
Serial Number ▪ Сериен номер ▪ Sériové číslo ▪ Serienummer ▪ Serienummer ▪ Seerianumber ▪ Valmistusnumero ▪ Numéro de série ▪ Seriennummer ▪ Σειριακός αριθμός ▪ Sorozatszám ▪ Numero di serie ▪ Sērijas numurs ▪ Serijos numeris ▪ Numru Serjali ▪ Numer seryjny ▪ Número de Série ▪ Număr de serie ▪ Sériové číslo ▪ Serijska številka ▪ Número de serie ▪ Serienummer	6809801651-6809802500
Engine ▪ Двигател ▪ Motor ▪ Motor ▪ Motor ▪ Mootor ▪ Moottori ▪ Moteur ▪ Motor ▪ Μηχανή ▪ Modulnév ▪ Motore ▪ Dzinējs ▪ Variklis ▪ Saħħa Netta Installata ▪ Silnik ▪ Motor ▪ Motor ▪ Motor ▪ Motor ▪ Motor ▪ Motor	Kubota V2403-M-T-E3B Diesel
Net Installed Power ▪ Нетна инсталирана мощност ▪ Čistý instalovaný výkon ▪ Installeret nettoeffekt ▪ Netto geïnstalleerd vermogen ▪ Installeeritud netovõimsus ▪ Asennettu nettoteho ▪ Puissance nominale nette ▪ Installierte Nettoleistung ▪ Καθαρή εγκατεστημένη ισχύς ▪ Nettó beépített teljesítmény ▪ Potenza netta installata ▪ Paredzētā tīkla jauda ▪ Grynoji galia ▪ Wisa' tal-Qtugħ ▪ Moc zainstalowana netto ▪ Potência instalada ▪ Puterea instalată netă ▪ Čistý inštalovaný výkon ▪ Neto vgrajena moč ▪ Potencia instalada neta ▪ Nettoeffekt	44 kW @ 2700 RPM
Cutting Width ▪ Широчина на рязане ▪ Šířka řezu ▪ Skærebredde ▪ Maaibreedte ▪ Lõikelaius ▪ Leikkuuleveys ▪ Largeur de coupe ▪ Schnittbreite ▪ Μήκος μισινέζας ▪ Vágási szélesség ▪ Larghezza di taglio ▪ Griešanas platums ▪ Pjovimo plotis ▪ Tikkonforma mad-Direttivi ▪ Szerokość cięcia ▪ Largura de Corte ▪ Lăţimea de tăiere ▪ Šírka záberu ▪ Širina reza ▪ Anchura de corte ▪ Klippbredd	228,6 cm
Conforms to Directives ▪ В съответствие с директивите ▪ Splňuje podmínky směrnic ▪ Er i overensstemmelse med direktiver ▪ Voldoet aan de richtlijnen ▪ Vastab direktiividele ▪ Direktiivien mukainen ▪ Conforme aux directives ▪ Entspricht Richtlinien ▪ Ακολουθήστε πιστά τις Οδηγίες ▪ Megfelel az irányelveknek ▪ Conforme alle Direttive ▪ Atbilst direktīvām ▪ Atitinka direktyvų reikalavimus ▪ Valutazzjoni tal-Konformità ▪ Dyrektywy związane ▪ Cumpre as Directivas ▪ Respectă Directivele ▪ Je v súlade so smernicami ▪ Skladnost z direktivami ▪ Cumple con las Directivas ▪ Uppfyller direktiv	2004/108/EC 2006/42/EC 2000/14/EC, 2005/88/EC 2006/66/EC
Conformity Assessment ▪ Оценка за съответствие ▪ Hodnocení plnění podmínek ▪ Overensstemmelsesvurdering ▪ Conformiteitsbeoordeling ▪ Vastavushindamine ▪ Vaatimustenmukaisuuden arviointi ▪ Evaluation de conformité ▪ Konformitätsbeurteilung ▪ Διαπίστωση Συμμόρφωσης ▪ Megfelelőség-értékelés ▪ Valutazione della conformità ▪ Atbilstības novērtējums ▪ Atitikties įvertinimas ▪ Livell tal-Qawwa tal-Ħoss Imkejjel ▪ Ocena zgodności ▪ Avaliação de Conformidade ▪ Evaluarea conformităţii ▪ Vyhodnotenie zhodnosti ▪ Ocena skladnosti ▪ Evaluación de conformidad ▪ Bedömning av överensstämmelse	2006/42/EC Annex VIII
Measured Sound Power Level ▪ Измерено ниво на звукова мощност ▪ Naměřený akustický výkon ▪ Målte lydstyrkeniveau ▪ Gemeten geluidsniveau ▪ Mõõdetud helivõimsuse tase ▪ Mitattu äänitehotaso ▪ Niveau de puissance sonore mesuré ▪ Gemessener Schalldruckpegel ▪ Σταθμισμένο επίπεδο ηχητικής ισχύος ▪ Mért hangteljesítményszint ▪ Livello di potenza sonora misurato ▪ Izmērītais skaņas jaudas līmenis ▪ Išmatuotas garso stiprumo lygis ▪ Livell tal-Qawwa tal-Ħoss Iggarantit ▪ Moc akustyczna mierzona ▪ Nível sonoro medido ▪ Nivelul măsurat al puterii acustice ▪ Nameraná hladina akustického výkonu ▪ Izmerjena raven zvočne moči ▪ Nivel de potencia sonora medido ▪ Uppmätt ljudeffektsnivå	105 dB(A) LWA
Guaranteed Sound Power Level ▪ Гарантирано ниво на звукова мощност ▪ Garantovaný akustický výkon ▪ Garanteret lydstyrkeniveau ▪ Gegarandeerd geluidsniveau ▪ Garanteeritud helivõimsuse tase ▪ Taattu äänitehotaso ▪ Niveau de puissance sonore garanti ▪ Garantierter Schalldruckpegel ▪ Εγγυημένο επίπεδο ηχητικής ισχύος ▪ Szavatolt hangteljesítményszint ▪ Livello di potenza sonora garantito ▪ Garantētais skaņas jaudas līmenis ▪ Garantuotas garso stiprumo lygis ▪ Livell tal-Qawwa tal-Ħoss Iggarantit ▪ Moc akustyczna gwarantowana ▪ Nível sonoro farantido ▪ Nivelul garantat al puterii acustice ▪ Garantovaná hladina akustického výkonu ▪ Zajamčena raven zvočne moči ▪ Nivel de potencia sonora garantizado ▪ Garanterad ljudeffektsnivå	105 dB(A) LWA
Conformity Assessment Procedure (Noise) ▪ Оценка за съответствие на процедурата (Шум) ▪ Postup hodnocení plnění podmínek (hluk) ▪ Procedure for overensstemmelsesvurdering (Støj) ▪ Procedure van de conformiteitsbeoordeling (geluid) ▪ Vastavushindamismenetlus (müra) ▪ Vaatimustenmukaisuuden arviointimenettely (Melu) ▪ Procédure d'évaluation de conformité (bruit) ▪ Konformitätsbeurteilungsverfahren (Geräusch) ▪ Διαδικασία Αξιολόγησης Συμμόρφωσης (Θόρυβος) ▪ Megfelelőség-értékelési eljárás (Zaj) ▪ Procedura di valutazione della conformità (rumore) ▪ Atbilstības novērtējuma procedūra (troksnis) ▪ Atitikties įvertinimo procedūra (garsas) ▪ Proċedura tal-Valutazzjoni tal-Konformità (Ħoss) ▪ Procedura oceny zgodności (poziom hałasu) ▪ Processo de avaliação de conformidade (nível sonoro) Procedura de evaluare a conformităţii (zgomot) ▪ Postup vyhodnocovania zhodnosti (hluk) ▪ Postopek za ugotavljanje skladnosti (hrup) ▪ Procedimiento de evaluación de conformidad (ruido) ▪ Procedur för bedömning av överensstämmelse (buller)	2000/14/EC Annex VI, Part 1
UK Notified Body for 2000/14/EC ▪ Нотифициран орган в Обединеното кралство за 2000/14/EO ▪ Úřad certifikovaný podle směrnice č. 2000/14/EC ▪ Det britiske bemyndigede organ for 2001/14/EF ▪ Engels adviesorgaan voor 2000/14/EG ▪ Ühendkuningriigi teavitatud asutus direktiivi 2000/14/EÜ mõistes ▪ Direktiivin 2000/14/EY mukainen ilmoitettu tarkastuslaitos Isossa-Britanniassa ▪ Organisme notifié concernant la directive 2000/14/CE ▪ Britische benannte Stelle für 2000/14/EG ▪ Κοινοποιημένος Οργανισμός Ηνωμένου Βασιλείου για 2000/14/ΕΚ ▪ 2000/14/EK – egyesült királyságbeli bejelentett szervezet ▪ Organismo Notificato in GB per 2000/14/CE ▪ 2000/14/EK AK reġistrētā organizācija ▪ JK notifikuotosios įstaigos 2000/14/EC ▪ Korp Notifikat tar-Renju Unit għal 2000/14/KE ▪ Dopuszczona jednostka badawcza w Wielkiej Brytanii wg 2000/14/WE ▪ Entidade notificada no Reino Unido para 2000/14/CE ▪ Organism notificat în Marea Britanie pentru 2000/14/CE ▪ Notifikovaný orgán Spojeného kráľovstva pre smernicu 2000/14/ES ▪ Britanski priglašeni organ za 2000/14/ES ▪ Cuerpo notificado en el Reino Unido para 2000/14/CE ▪ Anmält organ för 2000/14/EG i Storbritannien	Number: 1088 Sound Research Laboratories Limited Holbrook House, Little Waldingfield Sudbury, Suffolk CO10 0TH

Operator Ear Noise Level • Оператор на нивото на доловим от ухото шум • Hladina hluku v oblasti uší operátora • Støjniveau i førers ørehøjde • Geluidsniveau oor bestuurder • Müratase operaatori kõrvas • Melutaso käyttäjän korvan kohdalla • Niveau de bruit à hauteur des oreilles de l'opérateur • Schallpegel am Bedienerohr • Επίπεδο θορύβου σε λειτουργία • A kezelő fülénél mért zajszint • Livello di potenza sonora all'orecchio dell'operatore • Trokšņa līmenis pie operatora auss • Dirbančiojo su mašina patiriamo triukšmo lygis • Livell tal-Ħoss fil-Widna tal-Operatur • Dopuszczalny poziom hałasu dla operatora • Nível sonoro nos ouvidos do operador • Nivelul zgomotului la urechea operatorului • Hladina hluku pôsobiaca na sluch operátora • Raven hrupa pri ušesu upravljavca • Nivel sonoro en el oído del operador • Ljudnivå vid förarens öra	90 dB(a) Leq (2006/42/EC)
Harmonised standards used • Използвани хармонизирани стандарти • Použité harmonizované normy • Brugte harmoniserede standarder • Gebruikte geharmoniseerde standaards • Kasutatud ühtlustatud standardid • Käytetyt yhdenmukaistetut standardit • Normes harmonisées utilisées • Angewandte harmonisierte Normen • Εναρμονισμένα πρότυπα που χρησιμοποιήθηκαν • Harmonizált szabványok • Standard armonizzati applicati • Izmantotie saskaņotie standarti • Panaudoti suderinti standartai • Standards armonizzati użati • Normy spójne powiązane • Normas harmonizadas usadas • Standardele armonizate utilizate • Použité harmonizované normy • Uporabljeni usklajeni standardi • Estándares armonizados utilizados • Harmoniserade standarder som används	BS EN ISO 20643 BS EN ISO 5349-1 BS EN ISO 5349-2 BS EN 836
Technical standards and specifications used • Използвани технически стандарти и спецификации • Použité technické normy a specifikace • Brugte tekniske standarder og specifikationer • Gebruikte technische standaards en specificaties • Kasutatud tehnilised standardid ja spetsifikatsioonid • Käytetyt tekniset standardit ja eritelmät • Spécifications et normes techniques utilisées • Angewandte technische Normen und Spezifikationen • Τεχνικά πρότυπα και προδιαγραφές που χρησιμοποιήθηκαν • Műszaki szabványok és specifikációk • Standard tecnici e specifiche applicati • Izmantotie tehniskie standarti un specifikācijas • Panaudoti techniniai standartai ir techninė informacija • Standards u speċifikazzjonijiet tekniċi użati • Normy i specyfikacje techniczne powiązane • Normas técnicas e especificações usadas • Standardele tehnice şi specificaţiile utilizate • Použité technické normy a špecifikácie • Uporabljeni tehnični standardi in specifikacije • Estándares y especificaciones técnicas utilizadas • Tekniska standarder och specifikationer som används	B71.4 ISO 2631-1 SAE J1194
The place and date of the declaration • Място и дата на декларацията • Místo a datum prohlášení • Sted og dato for erklæringen • Plaats en datum van de verklaring • Deklaratsiooni väljastamise koht ja kuupäev • Vakuutuksen paikka ja päivämäärä • Lieu et date de la déclaration • Ort und Datum der Erklärung • Τόπος και ημερομηνία δήλωσης • A nyilatkozat kelte (hely és idő) • Luogo e data della dichiarazione • Deklarācijas vieta un datums • Deklaracijos vieta ir data • Il-post u d-data tad-dikjarazzjoni • Miejsce i data wystawienia deklaracji • Local e data da declaração • Locul şi data declaraţiei • Miesto a dátum vyhlásenia • Kraj in datum izjave • Lugar y fecha de la declaración • Plats och datum för deklarationen	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA January 1, 2011
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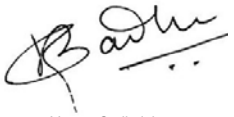
Undertecknas av den som bemyndigad att upprätta deklarationen å tillverkarens vägnar, innehar den tekniska dokumentationen och är bemyndigad att sammanställa den tekniska informationen och som är etablerad i gemenskapen.	2006/42/EC Annex II 1.A.2 Tim Lansdell Technical Director Ransomes Jacobsen Limited West Road, Ransomes Europark, Ipswich, IP3 9TT, England 2006/42/EC Annex II 1.A.10  Vasant Godhalekar VP of Engineering Jacobsen, A Textron Company 11524 Wilmar Blvd, Charlotte, NC 28273, USA
Certificate Number • Номер на сертификат • Číslo osvědčení • Certifikatnummer • Certificaatnummer • Sertifikaadi number • Hyväksyntänumero • Numéro de certificat • Bescheinigungsnummer • Αριθμός Πιστοποιητικού • Hitelesítési szám • Numero del certificato • Sertifikāta numurs • Sertifikato numeris • Numru taċ-Ċertifikat • Numer certyfikatu • Número do Certificado • Număr certificat • Číslo osvedčenia • Številka certifikata • Número de certificado • Certifikatsnummer	4179483 Rev B

3.1 GENERAL

WARNING

To prevent injury, lower implements to the ground, disengage all drives, engage parking brake, stop engine and remove key from ignition switch before making any adjustments or performing maintenance.

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

If only the front or rear of the mower is raised, place chocks in front of and behind the wheels that are not raised.

1. Adjustments and maintenance should always be performed by a qualified technician. If proper adjustment cannot be made, contact an authorized Jacobsen Dealer.
2. Replace, do not adjust, worn or damaged components.
3. Do not wear jewelry or loose fitting clothing when making adjustments or repairs.

CAUTION

Be careful to prevent entrapment of the hands and fingers between moving and fixed components of the machine.

4. Do not change governor settings or overspeed the engine.

3.2 MOW SPEED

Cutting quality is better at speeds well below the transport speed of the mower. An initial mow speed of five to six mph is set at the factory and should be satisfactory for most cutting conditions. Local turf conditions, however, may respond better to a different speed.

To set mow speed, loosen jam nut **(A)** and adjust stop screw up to reduce speed, down to increase speed. Tighten nut to hold adjustment in place.

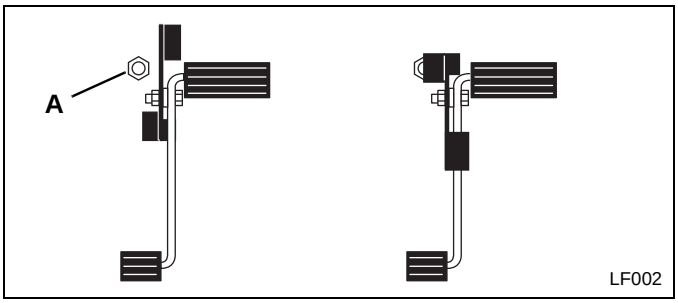


Figure 3A

3.3 BELT

Inspect and adjust new belt after first ten hours of operation. Adjust every 100 hours thereafter.

Adjust alternator pulley so belt deflects 1/4 to 5/16 in. (6 -8 mm) with a 20 lb. push at midpoint between pulleys. See engine manual.

If tension is incorrect, loosen alternator mounting bolts **(B)** and adjust alternator until proper belt tension is achieved.

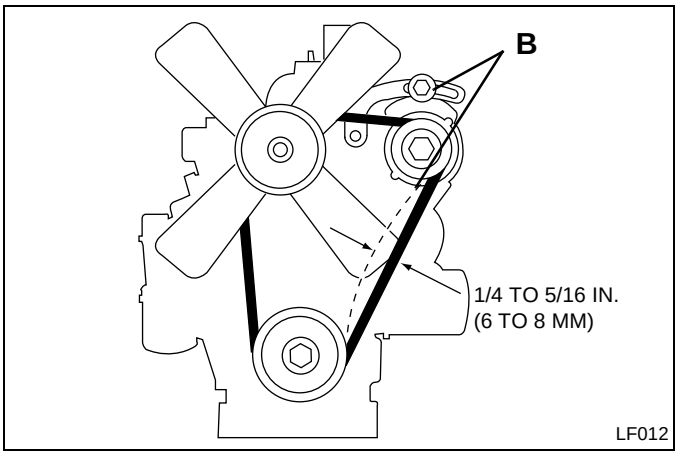


Figure 3B

3.4 BRAKES

Adjust brakes after replacing or servicing brake assembly, or if pedal travel becomes excessive.

1. When installing new brake pads, burnish pads by driving mower at mowing speed while applying a slight pressure on brake pedal for about 5 seconds. Release and repeat five times before making the final adjustment.
2. Fully loosen adjusting nut **(E)**.
3. Disconnect brake return spring **(See Item 14, Illustration 8.1)** at caliper.
4. By hand, pull cable behind adjusting nut **(C)** away from pedal until brake pads just contact brake disk. Thread adjusting nut **(C)** up until it contacts the mounting plate. Tighten nut **(E)** to lock adjustment in place. Torque nut **(E)** to 20 ft. lb. (27 Nm). Do not over torque or turn cable.
5. Connect brake return spring. Repeat for second cable.
6. If brakes wear beyond point where they can be adjusted by the cable, move brake bracket into second set of holes provided **(D)** and complete adjustment procedure.
7. Start mower and check operation of brakes. Park mower on an incline (approximately. 16.7° slope) and engage parking brake. Brake must prevent mower from rolling. Adjust nut **(C)** as required.

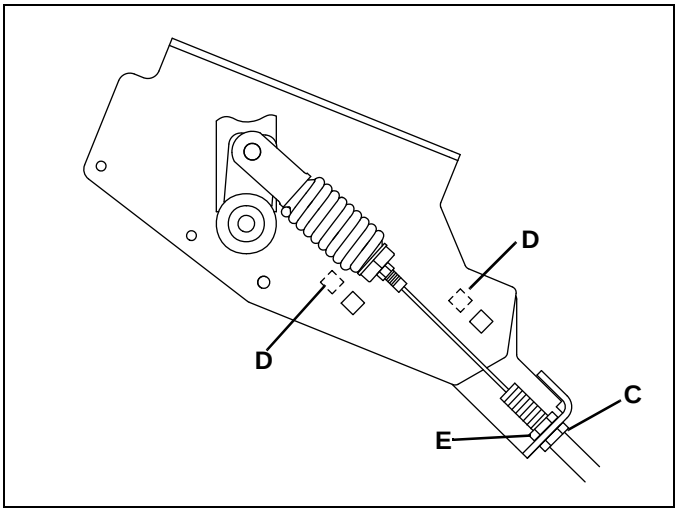


Figure 3C

3.5 NEUTRAL ADJUSTMENT

Neutral adjustment can only be made at the drive pump.

The Neutral adjustment is preset at the factory on all new mowers and replacement pumps. Further adjustment is not required unless the pump has been disassembled for repair or service.

To adjust Neutral:

1. Disconnect traction pedal linkage from pump.
2. Place mower securely on jack stands so **All** wheels are raised off ground.
3. Check that tow valve **(H)** is closed
4. Engage parking brake and set mow switch to Neutral. Make sure Neutral switch at traction pedal is closed. (Figure 3E - **M**). Distance between the sensing portion of switch and metal pointer **(M)** must be between 1/16 and 1/8 in. (1.5 and 3 mm).
5. Loosen screws **(G)** holding pump lever bracket just enough so it can be moved. Start engine, disengage parking brake, and observe wheels. Adjust bracket **(F)** in slotted holes until wheels do not turn. Turn off engine and tighten bracket in place.
6. Connect traction linkage. When connecting linkage at traction pedal make sure pointer on traction pedal bracket is centered over Neutral switch (**M** -**Figure 3E**).
7. Start engine and check operation of traction pedal. Wheels must not turn when pedal returns to Neutral and lamp 5 on controller should light, see Section 5.2.

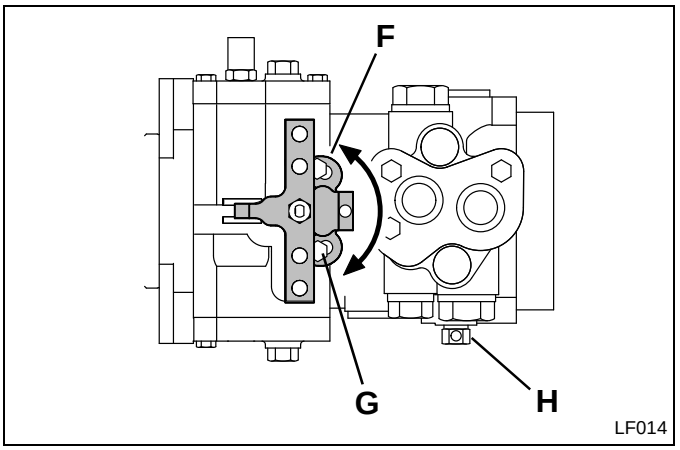


Figure 3D

3.6 FORWARD / REVERSE SPEED

Forward and reverse speeds are adjusted at the traction pedal. Set forward speed before adjusting reverse.

To adjust forward speed:

1. Make sure drive pump has been set to Neutral and engine throttle is adjusted correctly.
2. Start engine and check forward travel speed with engine at full throttle and mower in two wheel drive (2WD). Forward transport speed should measure 10 mph (16 kph).
3. Stop engine. To adjust forward speed, disconnect eye bolt **(K)** from pedal and loosen jam nut. Turn eye bolt in to reduce speed, out to increase speed. Tighten jam nut to hold adjustment in place and connect eye bolt.
4. With traction pedal in Neutral, check position of Neutral switch **(J)**. Adjust switch up or down so pointer **(M)** on traction pedal bracket is centered over it. When adjusted correctly lamp 5 on controller will light when ignition switch is turned to on.
5. Start engine and check forward speed. Repeat procedure until 10 mph (16 kph) forward transport speed is attained.

To adjust reverse speed:

1. Set forward speed.
2. Start engine and check reverse travel speed with engine at full throttle. Reverse speed should measure 3.5 mph (5.6 kph).
3. Stop engine. To adjust reverse speed, loosen nut on reverse travel stop bolt **(L)**. Slide bolt forward in slotted hole to increase speed, back to reduce speed. Tighten nut to hold adjustment in place.
4. Start engine and check speed. Repeat procedure until 3.5 mph (5.6 kph) reverse speed is attained.

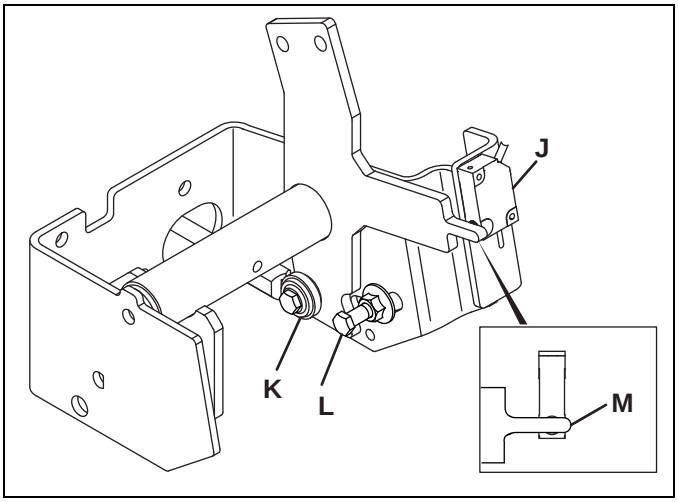


Figure 3E

3.7 STEERING TOE-IN

1. Turn wheels to straight ahead position.
2. Loosen jam nuts **(N)** on both sides of tie rod **(M)**.
3. Turn tie rod **(S)** to provide proper toe-in. Toe-in must not exceed +1/16 in. (+1.5 mm) **(P)**. Retighten jam nuts.
4. After adjusting tie rod, adjust steering cylinder by threading the rod **(T)** in or out of ball joint so spindle arm **(R)** clears the stop on the axle by 3/4 ± 1/16 in. (19 ± 1.5 mm) **(U)** when cylinder is fully extended.

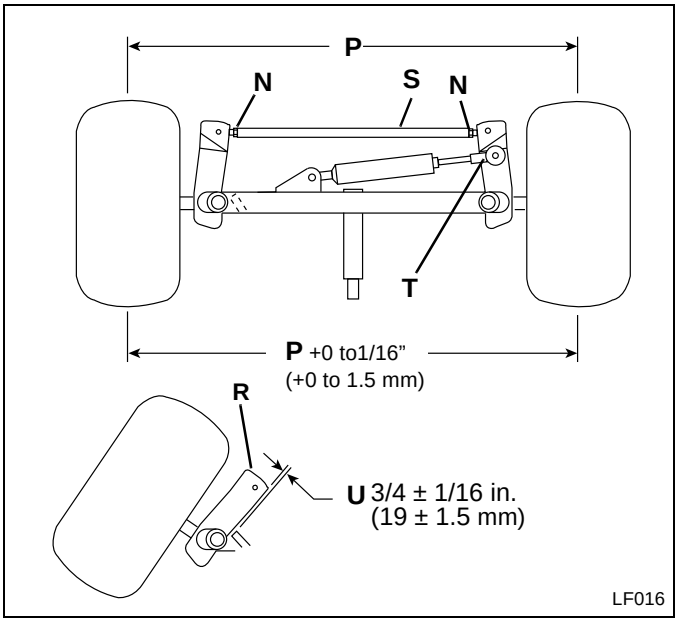


Figure 3F

3.8 CUTTING HEIGHT

Cutting height for decks can be adjusted from 3/4 to 5-1/4 in. (19-133 mm) in 1/4 in. (6 mm) increments. Actual cutting height may vary somewhat from the heights given depending on turf conditions and other factors.

NOTICE

When cutting undulating areas, lower cutting heights may cause scalping. Adjust height accordingly to prevent turf damage.

1. Park the mower on a flat, level surface. Fully lower cutting units. Stop engine and remove key from ignition.

⚠ WARNING

To prevent serious injury, lower deck until it is resting completely on the front casters and rear roller. This will prevent it from accidentally lowering while making adjustments. Disengage all drives, engage parking brake, stop engine, and remove ignition key.

2. Refer to the chart provided for desired cutting height.

⚠ CAUTION

Use proper lifting techniques when lifting or lowering deck housings. The deck housing assemblies weigh approximately 50 lbs (23 kg).

3. **To lower height of cut**, remove all three snap lock pins **(A)**. Lift outer spindle shaft **(B)** slightly and remove 1/2 in. (13 mm) spacers **(D)** and/or 1/4 in (6 mm) spacer **(E)** from bottom one at a time until desired height is obtained. Carefully remove blocks and lower deck housings **(C)**. Place remaining spacers on top of spindle and insert snap lock pins. Washer **(F)** is always on top, under snap lock pin.
4. **To raise height of cut**, remove all three snap lock pins **(A)**. Carefully lift deck housing **(C)** above desired cutting height and support with blocks. Add 1/2 in. (13 mm) spacers **(D)** and/or 1/4 in. (6 mm) spacer **(E)** as required until desired height is obtained. Lower deck housing. Place remaining spacers on top of spindle and insert snap lock pins. Washer **(F)** is always on top, under snap lock pin.

NOTICE

For best quality of cut, always place the same number of spacers under deck housing on all three spindles. Adjust all decks to same cutting height.

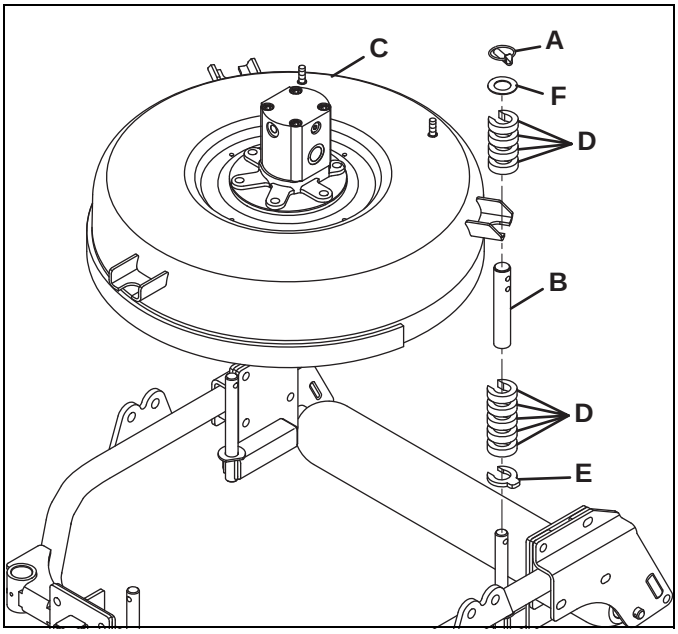


Figure 3G

Height of Cut	1/2” Spacers Below Mower Housing	1/2” Spacers Above Mower Housing	1/4” Spacer Location
3/4	0	9	Above Housing
1	0	9	Below Housing
1-1/4	1	8	Above Housing
1-1/2	1	8	Below Housing
1-3/4	2	7	Above Housing
2	2	7	Below Housing
2-1/4	3	6	Above Housing
2-1/2	3	6	Below Housing
2-3/4	4	5	Above Housing
3	4	5	Below Housing
3-1/4	5	4	Above Housing
3-1/2	5	4	Below Housing
3-3/4	6	3	Above Housing
4	6	3	Below Housing
4-1/4	7	2	Above Housing
4-1/2	7	2	Below Housing
4-3/4	8	1	Above Housing
5	8	1	Below Housing
5-1/4	9	0	Above Housing

3.9 TRACTION CONTROL SYSTEM CALIBRATION

The Traction Control System (TCS) will need to be calibrated when a system component has been replaced or the system is not working correctly. System components include controller, lift valve, lift cylinders, or hoses.

1. Allow hydraulic system to become properly warmed up. An operator must be in the seat during the calibration procedure.

⚠ WARNING

Never operate the engine without proper ventilation; exhaust fumes can be fatal when inhaled.

While warming up the hydraulic system for the calibration procedure, the cutting unit blades will be turning. Make certain that the area under and around the cutting units is clean and any debris that can be thrown from the machine is cleared away. Keep bystanders away from unit.

   a. Start engine and move throttle to full position.
   b. Release the parking brake.
   c. Turn PTO switch ON.
   d. Fully lower cutting units to the ground.
   e. Engage traction control system.
   f. Allow unit to run for 5 minutes with these settings.

2. System must be calibrated with the engine running, operator in seat, PTO switch in OFF position, parking brake engaged and traction pedal in Neutral.
3. Fully lower cutting units. Verify all five decks are all the way down.
4. Press and hold TCS switch for 5 seconds. Horn will beep when controller enters calibration mode.

NOTICE

Do not release switch until horn stops for both starting and finishing the calibration procedure.

5. Tap the lift lever to raise position and wait for 3 to 5 seconds. Repeat if required until cutting units just begin to raise.
6. Tap the lift lever to lower position and wait until decks stop moving. Repeat, tapping joystick if required until front decks are on the ground.

NOTICE

Do not rush through steps 5 and 6. System will not be properly calibrated if decks do not start to raise in step 5 and are not fully lowered during step 6.

7. Press and hold TCS switch until horn beeps. System is now calibrated.

NOTICE

To cancel calibration mode, turn keyswitch to the OFF position.

3.10 TORQUE SPECIFICATION

NOTICE

All torque values included in these charts are approximate and are for reference only. Use of these torque values is at your sole risk. Jacobsen is not responsible for any loss, claim, or damage arising from the use of these charts. **Extreme caution should always be used when using any torque value.**

Jacobsen uses Grade 5 Plated bolts as standard, unless otherwise noted. For tightening plated bolts, use the value given for lubricated.

AMERICAN NATIONAL STANDARD FASTENERS

SIZE	UNITS	GRADE 5		GRADE 8		SIZE	UNITS	GRADE 5		GRADE 8	
		Lubricated	Dry	Lubricated	Dry			Lubri-cated	Dry	Lubri-cated	Dry
#6-32	in-lb (Nm)	–	20 (2.3)	–	–	7/16-14	ft-lb (Nm)	37 (50.1)	50 (67.8)	53 (71.8)	70 (94.9)
#8-32	in-lb (Nm)	–	24 (2.7)	–	30 (3.4)	7/16-20	ft-lb (Nm)	42 (56.9)	55 (74.6)	59 (80.0)	78 (105)
#10-24	in-lb (Nm)	–	35 (4.0)	–	45 (5.1)	1/2-13	ft-lb (Nm)	57 (77.2)	75 (101)	80 (108)	107 (145)
#10-32	in-lb (Nm)	–	40 (4.5)	–	50 (5.7)	1/2-20	ft-lb (Nm)	64 (86.7)	85 (115)	90 (122)	120 (162)
#12-24	in-lb (Nm)	–	50 (5.7)	–	65 (7.3)	9/16-12	ft-lb (Nm)	82 (111)	109 (148)	115 (156)	154 (209)
1/4-20	in-lb (Nm)	75 (8.4)	100 (11.3)	107 (12.1)	143 (16.1)	9/16-18	ft-lb (Nm)	92 (124)	122 (165)	129 (174)	172 (233)
1/4-28	in-lb (Nm)	85 (9.6)	115 (13.0)	120 (13.5)	163 (18.4)	5/8-11	ft-lb (Nm)	113 (153)	151 (204)	159 (215)	211 (286)
5/16-18	in-lb (Nm)	157 (17.7)	210 (23.7)	220 (24.8)	305 (34.4)	5/8-18	ft-lb (Nm)	128 (173)	170 (230)	180 (244)	240 (325)
5/16-24	in-lb (Nm)	173 (19.5)	230 (26.0)	245 (27.6)	325 (36.7)	3/4-10	ft-lb (Nm)	200 (271)	266 (360)	282 (382)	376 (509)
3/8-16	ft-lb (Nm)	23 (31.1)	31 (42.0)	32 (43.3)	44 (59.6)	3/4-16	ft-lb (Nm)	223 (302)	298 404	315 (427)	420 (569)
3/8-24	ft-lb (Nm)	26 (35.2)	35 (47.4)	37 (50.1)	50 (67.8)	7/8-14	ft-lb (Nm)	355 (481)	473 (641)	500 (678)	668 (905)

METRIC FASTENERS

SIZE	UNITS	4.6		8.8		10.9		12.9		Non Critical Fasteners into Aluminum
		Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	
M4	Nm (in-lb)	–	–	–	–	–	–	3.83 (34)	5.11 (45)	2.0 (18)
M5	Nm (in-lb)	1.80 (16)	2.40 (21)	4.63 (41)	6.18 (54)	6.63 (59)	8.84 (78)	7.75 (68)	10.3 (910	4.0 (35)
M6	Nm (in-lb)	3.05 (27)	4.07 (36)	7.87 (69)	10.5 (93)	11.3 (102)	15.0 (133)	13.2 (117)	17.6 (156)	6.8 (60)
M8	Nm (in-lb)	7.41 (65)	9.98 (88)	19.1 (69)	25.5 (226)	27.3 (241)	36.5 (323)	32.0 (283)	42.6 (377)	17.0 (150)
M10	Nm (ft-lb)	14.7 (11)	19.6 (14)	37.8 (29)	50.5 (37)	54.1 (40)	72.2 (53)	63.3 (46)	84.4 (62)	33.9 (25)
M12	Nm (ft-lb)	25.6 (19)	34.1 (25)	66.0 (48)	88.0 (65)	94.5 (70)	125 (92)	110 (81)	147 (108)	61.0 (45)
M14	Nm (ft-lb)	40.8 (30)	54.3 (40)	105 (77)	140 (103)	150 (110)	200 (147)	175 (129)	234 (172)	94.9 (70)

4.1 GENERAL

WARNING

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine, and remove key from ignition switch to prevent injuries

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

1. Adjustment and maintenance should always be performed by a qualified technician. If proper adjustments cannot be made, contact an Authorized Jacobsen Dealer.
2. Inspect the equipment on a regular basis, establish a maintenance schedule and keep detailed records.
   a. Keep the equipment clean.
   b. Keep all moving parts properly adjusted and lubricated.
   c. Replace worn or damaged parts before operating the machine.
   d. Keep all fluids at their proper levels.
   e. Keep shields in place and all hardware securely fastened.
   f. Keep tires properly inflated.
3. Do not wear jewelry or loose fitting clothing when making adjustments or repairs.
4. Use the illustrations in the Parts Catalog as reference for the disassembly and reassembly of components.
5. Recycle or dispose of all hazardous materials (batteries, fuel, lubricants, anti-freeze, etc.) according to local, state, or federal regulations.

4.2 ENGINE

IMPORTANT: A separate Engine Manual, prepared by the engine manufacturer, is supplied with this mower. Read the Engine Manual carefully until you are familiar with the operation and maintenance of the engine. Proper attention to the engine manufacturer's directions will assure maximum service life of the engine. To order replacement engine manuals contact the engine manufacturer.

The proper break-in of a new engine can make a considerable difference to the performance and life of the engine.

During the break-in period, Jacobsen recommends the following:

1. During the first 50 hours of operation, a new engine should be allowed to reach an operating temperature of at least 140°F (60°C) prior to operation at full load.
2. Check the engine oil level twice daily during the first 50 hours of operation. Higher than normal oil consumption is not uncommon during the initial break-in period.
3. Change engine oil and oil filter element after first 50 hours of operation.
4. Check and adjust fan and alternator belts.
5. Refer to **Section 6.2** and Engine Manual for specific maintenance intervals.

If the injection pump, injectors or the fuel system require service, contact an authorized Jacobsen Dealer.

NOTICE

The mower is designed to operate and cut most efficiently at the preset governor setting. Do not change the engine governor settings or overspeed the engine.

4.3 ENGINE OIL

Check the engine oil at the start of each day, before starting the engine. If the oil level is low, remove oil filler cap, and add oil as required.

Perform initial oil change after first 50 hours of operation and every 100 hours thereafter. See Engine Manual.

Use only engine oils with API classification CD/CE.

Above 77°F (25°C)	SAE 30W or SAE10W30/10W40
32 to 77°F (0 to 25°C)	SAE 20W or SAE 10W30/10W40
Below 32°F (0°C)	SAE10W or SAE 10W30/10W40

4.4 AIR FILTER

Check the service indicator daily. If red band appears in the window **(B)** replace the element.

Do not remove the element for inspection or cleaning. Unnecessary removal of the filter increases the risk of injecting dust and other impurities into the engine.

When service is required, first clean the outside of the filter housing, then remove the old element as gently as possible and discard.

1. Carefully clean the inside of the filter housing without allowing dust into the air intake.
2. Inspect the new element. Do not use a damaged element and never use an incorrect element.
3. Assemble the new element and make sure it seats properly. Reset the indicator by depressing button **(A)**.
4. Reassemble cap making sure it seals completely around the filter housing. Dust evacuator must be facing down.
5. Check all hoses and air ducts. Tighten hose clamps.

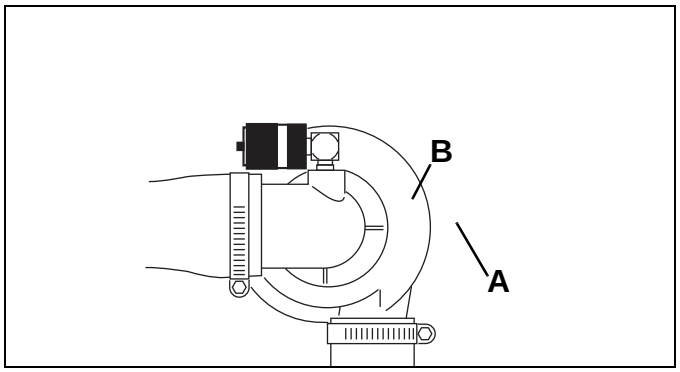


Figure 4A

4.5 FUEL

Handle fuel with care - it is highly flammable. Only use an approved container. The spout must fit inside the fuel filler neck. Avoid using cans and funnels to transfer fuel.

⚠ WARNING

Never remove the fuel cap from the fuel tank, or add fuel, when the engine is running or while the engine is hot.

Do not smoke when handling fuel. Never fill or drain the fuel tank indoors.

Clean spilled fuel immediately.

Never handle or store fuel containers near an open flame or any device that may create sparks and ignite the fuel or fuel vapors.

Be sure to reinstall and tighten fuel cap securely.

- Fill the fuel tank to within 1 in. (25 mm) below the filler neck.
- Use clean, fresh, #2 Diesel fuel, minimum Cetane Rating 45. Refer to Engine Manual for additional information.
- Check fuel lines and clamps every 50 hours. Replace fuel lines and clamps at the first sign of damage.
- Store fuel according to local, state or federal ordinances and recommendations from your fuel supplier.
- Never overfill or allow the tank to become empty.

4.6 FUEL SYSTEM

Refer to **Section 6.2** for specific maintenance intervals.

Before replacing any filter, thoroughly clean the filter housing and the area around the filter. Dirt must not be allowed to enter into fuel system.

Bleed the fuel system after the fuel filter and lines have been removed, or the fuel tank has become empty. See Engine Manual.

To change fuel filter:

1. Close fuel valve on tank, then remove and discard the existing filter.
2. Apply a light coat of oil to the gasket and hand tighten new filter.
3. Fill fuel tank. Open fuel valve on tank and bleed the filter. See Engine Manual.

4.7 BATTERY

Make absolutely certain the ignition switch is OFF position and the key has been removed before servicing the battery.

⚠ CAUTION

Always use insulated tools, wear protective glasses or goggles and protective clothing when working with batteries. You must read and obey all the battery manufacturer's instructions.

Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep vent caps and terminal covers in place.

Check the electrolyte level every 100 hours. Keep the cable ends, battery and battery posts clean.

Always disconnect battery cables from battery and controller connectors before performing and welding operation on the mower.

Verify battery polarity before connecting or disconnecting the battery cables.

1. When installing the battery, always assemble the RED, positive (+) battery cable first and the ground, BLACK, negative (-) cable last.
2. When removing the battery, always remove the ground, BLACK, negative (-) cable first and the RED, positive (+) cable last.
3. Make sure battery is properly installed and secured to the battery tray.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and other reproductive harm. **Wash your hands after handling.**

4.8 JUMP STARTING

Before attempting to "jump start" the mower, check the condition of the discharged battery. **Section 4.7**.

⚠ WARNING

Batteries generate explosive hydrogen gas. To reduce the chance of an explosion, avoid creating sparks near battery. Always connect the negative jumper cable to the frame of the mower with the discharged battery, away from the battery.

When connecting jumper cables:

1. Stop the engine on vehicle with good battery.
2. Connect RED jumper cable to the positive (+) terminal on the good battery and to the positive (+) terminal on the "discharged" battery.
3. Connect the BLACK jumper cable from the negative (-) terminal on the good battery to the **frame** of mower with discharged battery.

After cables have been connected, start the engine on the vehicle with the good battery then start the mower.

4.9 CHARGING BATTERY

⚠ WARNING

Charge battery in a well ventilated area. Batteries generate explosive gases. To prevent an explosion, keep any device that may create sparks or flames away from the battery.

To prevent injury, stand away from battery when the charger is turned on. A damaged battery could explode.

1. Refer to **Section 4.7**. Read the Battery and Charger's manual for specific instructions.
2. Whenever possible, remove the battery from the mower before charging. If battery is not sealed, check that the electrolyte liquid covers the plates in all the cells.
3. Make sure the charger is OFF, then connect the charger to the battery terminals as specified in the charger's manual.
4. Always turn the charger OFF before disconnecting charger from the battery terminals.

4.10 MUFFLER AND EXHAUST

WARNING

Exhaust fumes contain carbon monoxide that is toxic and can be fatal when inhaled.

NEVER operate an engine without proper ventilation.

To protect from carbon monoxide poisoning, inspect the complete exhaust system regularly and always replace a defective muffler.

If you notice a change in the color or sound of the exhaust, stop the engine immediately. Identify the problem and have the system repaired.

Torque all exhaust manifold hardware evenly. Tighten or replace exhaust clamps.

4.11 HYDRAULIC HOSES

WARNING

To prevent serious injury from hot, high pressure oil, never use your hands to check for oil leaks. Use paper or cardboard.

Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin. If fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

1. Always lower implements to ground, disengage all drives, engage parking brake, stop engine and remove key before inspecting or disconnecting hydraulic lines or hoses.
2. Check visible hoses and tubes daily. Look for wet hoses or oil spots. Replace worn or damaged hoses and tubes before operating the machine.
3. The replacement tube or hoses must be routed in the same path as the existing hose. Do not move clamps, brackets and ties to a new location.
4. Thoroughly inspect all tubes, hoses and connections every 250 hours.

   IMPORTANT: The hydraulic system can be permanently damaged if the oil becomes contaminated. Before disconnecting any hydraulic component, clean the area around the fittings and the hose ends to keep impurities out of the system.

   a. Before disconnecting any hydraulic component, tag or mark the location of each hose then clean the area around the fittings.

   b. As you disconnect the component, be prepared to assemble plugs or caps to the hose ends and open ports. This will keep impurities out of the hydraulic system and also prevent oil spills.

   c. Make sure “O” rings are clean and hose fittings are properly seated before tightening.

   d. Keep the hose from twisting. Twisted hoses can cause couplers to loosen as the hose flexes during operation, resulting in oil leaks.

   e. Kinked or twisted hoses can restrict the oil flow, causing the system to malfunction and the oil to overheat and also lead to hose failure.

4.12 HYDRAULIC OIL

Refer to **Section 6.2** for specific maintenance intervals.

Drain and replace the hydraulic oil after a major component failure, or if you notice the presence of water or foam in the oil, or a rancid odor (indicating excessive heat).

Always replace both hydraulic filters when oil filter light stays on or when changing oil.

To change hydraulic oil:

1. Clean the area around the oil cap to prevent impurities from entering and contaminating the system.
2. Remove drain plug from bottom of tank.
3. After oil has drained, install drain plug and fill with hydraulic oil.
4. Purge air from system.

   a. To prevent reels from overheating, disconnect motors from reels.

   b. Operate all mower functions for about 5 minutes to purge air out of the system and stabilize the oil level. During this time, the oil level alarm may sound.

   c. Once the level has stabilized and the air is purged, fill the tank to the full mark on dipstick. Start engine and check that oil alarm remains off.

4.13 HYDRAULIC FILTER

The hydraulic system is protected by a 10 micron return line filter. Flow though the filters is monitored during operation. When pressure drop across the filters is too high the hydraulic oil filter warning light will come on. To ensure continued protection to the hydraulic system, replace filter as soon as possible after light comes on.

NOTICE

During cold weather the warning light may come on until oil has warmed up to operating temperature. Wait until oil has warmed up and light goes out before operating mower.

To replace hydraulic filter:

1. Remove the old filter.
2. Install new filter. Hand tighten only.
3. Operate engine at idle speed with hydraulic system in Neutral for five minutes. The oil level alarm may sound during this time.
4. Check hydraulic oil level in reservoir and fill to full mark on dipstick.

4.14 ELECTRICAL SYSTEM

⚠ CAUTION

Always turn the ignition switch OFF and remove the negative battery cable (BLACK) before inspecting or working on the electrical system.

General precautions that can be taken to reduce electrical problems are listed below.

1. Make certain all terminals and connections are clean and properly secured.
2. Check the interlock system, fuses and circuit breakers regularly.

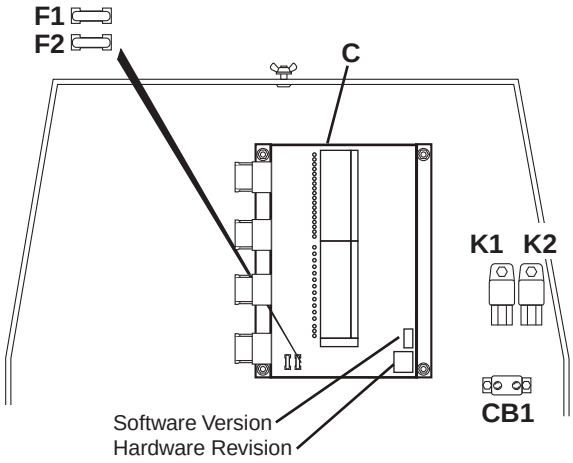
   If the interlock does not function properly and the problem cannot be corrected, contact an authorized Jacobsen Dealer.
3. Keep the wire harness and all individual wires away from moving parts to prevent damage.
4. Make sure the seat switch harness is connected to the main wire harness.
5. Check the battery and battery charging circuit.
6. Do not wash or pressure spray around electrical connections and components.

The electrical system is monitored and controlled by the electronic controller **(C)** located behind the operator's area. The controller is equipped with two banks of LED's which can be used when troubleshooting the electrical system. See Section 5.2.

NOTICE

For factory assistance with troubleshooting controller problems, please note the controller hardware revision and software version located on the lower right corner of the controller. Controllers with equal or greater revision levels will be backward compatible.

Circuits are protected by a circuit breaker, fuses and relays mounted on or near the controller.



CIRCUIT BREAKER
CB1 50 A CIRCUIT BREAKER
FUSES
F1 20 A ALTERNATOR, GAUGES, SWITCHES
F2 20 A LIGHTS

RELAYS
K1 GLOW PLUG
K2 STARTER

Figure 4B

4.15 RADIATOR

⚠ WARNING

To prevent serious bodily injury from hot coolant or steam blow-out, never attempt to remove the radiator cap while the engine is running. Stop the engine and wait until it is cool. Even then, use extreme care when removing the cap.

⚠ CAUTION

Do not pour cold water into a hot radiator. Do not operate engine without a proper coolant mixture. Install cap and tighten securely.

Check coolant level daily. Radiator should be full and recovery bottle should be up to the **cold** mark.

Drain and refill annually. Remove the radiator cap, open the engine block drain and the radiator drain. Empty and clean the recovery bottle.

Mix clean water with ethylene glycol based anti-freeze for the coldest ambient temperature. Read and follow the instructions on the anti-freeze container and Engine Manual.

Keep radiator and hydraulic oil cooler air passages clean. Use compressed air (30 psi maximum) to clean the fins.

To clean radiator:

1. Use a blow gun to clean the radiator and oil cooler fins.

NOTICE

A sliding panel located under the frame can be loosened and pulled back to allow dirt and debris to fall through frame.

2. Check and tighten the fan belt. Replace clamps and hoses every two years.
3. If you have to add coolant more than once a month, or add more than one quart at a time, have a Jacobsen Dealer check the cooling system.

4.16 ROLL OVER PROTECTIVE STRUCTURE (ROPS)

A Roll Over Protective Structure (ROPS), designed for this mower, is included with this mower as standard equipment. Inspect it periodically and follow operating procedures described in the **Safety & Operation Manual**.

⚠ CAUTION

Do not loosen or remove bolts, do not weld, drill, modify, bend, or straighten a damaged structure.

1. The seat, the seat belt, mounting hardware, and any accessories within the ROPS, should be inspected regularly and all damaged parts replaced immediately.
2. Once the ROPS has been subjected to any form of impact it should be replaced.
3. Check and re-torque all hardware. All replacement components used for the ROPS must be as specified in the Parts Catalog.

4.17 TIRES

1. Keep tires properly inflated to prolong tire life. Check inflation pressure while the tires are cool. Inspect tread wear.
2. Check pressure every 50 hours or once a month. Use an accurate, low pressure tire gauge.
3. Keep tires inflated to:

   Front - 16 psi (1.11 BAR)

   Rear - 12 psi (0.86 BAR)

⚠ CAUTION

Unless you have the proper training, tools and experience, DO NOT attempt to mount a tire on a rim. Improper mounting can produce an explosion which may result in serious injury.

4.18 WHEEL MOUNTING PROCEDURE

⚠ WARNING

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

If only the front or rear of the mower is raised, place chocks in front of and behind the wheels that are not raised.

1. Remove dirt, grease and oil from stud thread. Do not lubricate threads.
2. Position wheel on hub and inspect to insure full contact between mounting surface of wheel and hub or brake drum.
3. Finger tighten all hardware, then torque hardware in criss-cross order; always tighten nuts in the top position.
4. Check and re-torque daily until torque is maintained at 85-95 ft.lbs. (115-128 Nm).

4.19 INSPECTING BLADES

1. Every 50 hours of operation or whenever mower is removed from mower, carefully examine the blades to make sure they are in good operating condition. Blades showing any bends **(G)**, grooves **(H)** or cracks (**J)** must be replaced.

⚠ CAUTION

Use care when checking blades to avoid pinching hands and fingers between blade ends.

⚠ WARNING

Never attempt to straighten, weld, or repair a damaged blade. Always replace a damaged blade.

2. Any of the above conditions can cause a piece of the blade to break away and be hurled from the mower, causing very serious injury to bystanders or property damage.
3. A bent blade could have a microscopic crack (G) that can grow and allow a piece of the blade to break. Bent blades will also create vibration and other stress on the machinery.
4. Dust or sand particles can wear a dangerous groove in the blade (H) between the air vanes and the flat portion of the blade that will rapidly grow and produce a crack (J), permitting a piece of the vane to break off.

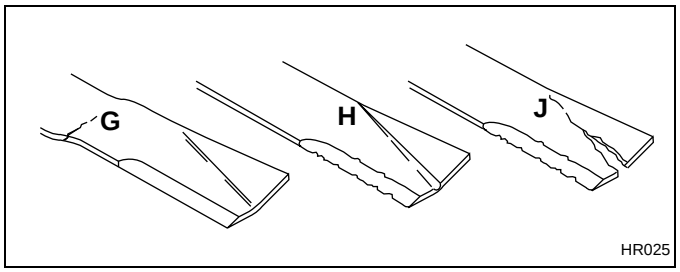


Figure 4C

4.20 SHARPENING BLADES

1. Place a wooden block between the blade and mower housing to stop the blade from moving.

⚠ WARNING

The mower blades can develop sharp edges. Use caution whenever servicing and handling.

2. When dressing or sharpening the blade, do not follow the original pattern of grind as shown in **(A)**. Grind new cutting edges at an angle as shown in **(B)**.

   If the maximum total loss of the blade reaches 1/2 in., (13 mm.), do not sharpen further. Replace blade.

⚠ WARNING

Re-sharpening the blade beyond the allowable 1/2 in. (13 mm) may allow the blade tip to break off and be thrown from the mower. Such an incident can cause very serious injury to bystanders and/or property damage.

3. Make sure an equal amount of material is removed from both sides of blade to prevent having an unbalanced blade. An unbalanced blade will cause excessive vibration and may damage the mower.
4. Use a blade balancer to check the blade after sharpening.
5. Torque center mounting screw holding blade to 75 to 90 ft. lb. (100 to 120 Nm).

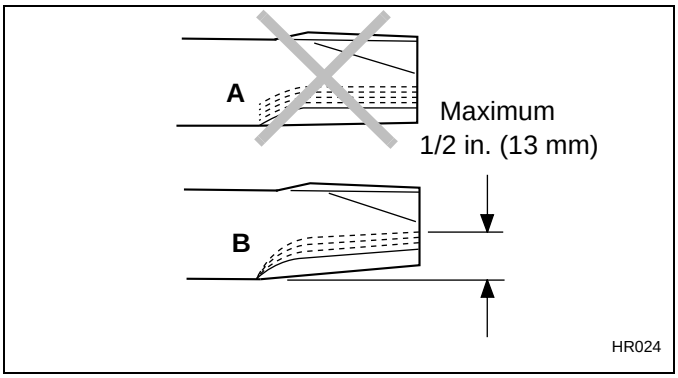


Figure 4D

4.21 CARE AND CLEANING

Clean the mower and implements after each use. Keep the equipment clean. Do not wash equipment with engine running. Serious engine damage may result. Whenever possible, clean the equipment using compressed air.

NOTICE

Do not wash any portion of the equipment while it is hot. Do not use high pressure spray or steam. Use cold water and automotive cleaners.

1. Use compressed air to clean engine and radiator fins.
2. Use only fresh water when washing your equipment.

NOTICE

Use of salt water or effluent water has been known to encourage rust and corrosion of metal parts, resulting in premature deterioration or failure. Damage of this nature is not covered by the factory warranty.

3. Do not spray water directly at the instrument panel, ignition switch, controller or any other electrical components, or at bearing housings and seals.
4. Clean all plastic or rubber trim with a mild soap solution or use commercially available vinyl/rubber cleaners.
5. To maintain the original high luster of the fiberglass, periodically wax with a good grade of One-Step cleaner wax.

Repair damaged metal surfaces and use Jacobsen touch-up paint. Wax the equipment for maximum paint protection.

⚠ CAUTION

Clean grass and debris from cutting units, drives, muffler and engine to prevent fires.

⚠ WARNING

NEVER use your hands to clean cutting units. Use a brush to remove grass clippings from blades. Blades are extremely sharp and can cause serious injuries.

4.22 STORAGE

General

1. Wash the mower thoroughly and lubricate. Repair and paint damaged or exposed metal.
2. Inspect the mower, tighten all hardware, replace worn or damaged components.
3. Drain and refill radiator.
4. Clean the tires thoroughly and store the mower so the load is off the tires. If mower is not on jack stands, check tires at regular intervals and reinflate as necessary.
5. Keep the machine and all its accessories clean, dry and protected from the elements during storage. Never store equipment near an open flame or spark which could ignite fuel or fuel vapors.

Battery

1. Remove, clean and store battery in upright position on a non-conductive surface (wood) in a cool, dry place. To prevent accelerated discharge, do not store battery on concrete or steel surface.
2. Check and recharge battery every 60 to 90 days while in storage.
3. Store batteries in a cool, dry place. To reduce the self discharge rate, room temperature should not be above 80°F (27°C) or fall below 20°F (-7°C) to prevent electrolyte from freezing.

Engine

1. While the engine is warm, remove drain plug, drain the oil from the crankcase, and change oil filter. Install drain plug and refill with fresh oil. Torque drain plug to 22 ft. lb. (30 Nm).
2. Clean exterior of engine. Paint exposed metal or apply a light coat of rust preventative oil.
3. Add a fuel conditioner or biocide to prevent gelling or bacterial growth in fuel. See your local fuel supplier.

Cutting Units

1. Wash the cutting units thoroughly, then repair and paint any damaged or exposed metal.
2. Lubricate all fittings and friction points.
3. Apply a light coat of rust preventative oil to the sharpened edges of the blades.

⚠ CAUTION

To prevent personal injury and damage to the cutting edges, handle the blades with extreme care.

After Storage

1. Check and reinstall battery
2. Check or service fuel filter and air cleaner.
3. Check the radiator coolant level.
4. Check oil level in the engine crankcase and hydraulic system.
5. Fill the fuel tank with fresh fuel. Bleed the fuel system.
6. Make certain that the tires are properly inflated.
7. Remove all oil from the blades. Adjust cutting height.
8. Start and operate the engine at 1/2 throttle. Allow enough time for the engine to become properly warmed and lubricated.

⚠ WARNING

Never operate the engine without proper ventilation, exhaust fumes can be fatal when inhaled.

5.1 GENERAL

The troubleshooting chart below lists basic problems that may occur during start-up and operation. For more detailed information regarding the hydraulic and electrical systems contact your area Jacobsen Dealer.

Symptoms	Possible Causes	Action
Engine will not start.	1. Parking brake disengaged, traction pedal not in Neutral, or mow switch ON.	1. Check interlock system and start-up procedure.
	2. Glow plug has not timed out.	2. Reset ignition switch and allow glow plug to time out before cranking engine.
	3. Battery low on charge or defective.	3. Inspect condition of battery and battery connections.
	4. Fuel tank empty or dirty.	4. Fill with fresh fuel. Change fuel filter. Bleed fuel lines.
	5. Fuse blown.	5. Replace fuse.
	6. Relay defective.	6. Test and replace relay.
	7. Neutral switch on traction pedal out of adjustment or defective.	7. Adjust or replace switch.
Engine hard to start or runs poorly.	1. Fuel level low, fuel or fuel filter dirty.	1. Fill with fresh fuel. Change fuel filter. Bleed fuel lines.
	2. Air cleaner dirty.	2. Inspect and replace air filter.
	3. Injectors, fuel pump.	3. Consult Engine Manual.
	4. Engine problem.	4. Consult Engine Manual.
Engine stops.	1. Fuel tank empty.	1. Fill with fresh fuel and bleed fuel lines.
	2. Interlocks not set before leaving operator’s seat.	2. Engage parking brake and set mow switch to OFF.
Engine overheating.	1. Coolant level low.	1. Inspect and add coolant.
	2. Air intake restricted.	2. Clean air intake at radiator.
	3. Water pump belt broken or loose.	3. Tighten or replace belt.
Battery not holding charge.	1. Loose or corroded battery terminals.	1. Inspect and clean terminals.
Battery light on.	2. Low electrolyte.	2. Refill to correct level.
	3. Alternator belt loose or broken.	3. Tighten or replace belt.
	4. Charging system defective.	4. See Engine Manual.
Decks cut unevenly.	1. Height of Cut not adjusted correctly.	Inspect height of cut adjustment. Same number of spacers below deck housing on all spindles.
	2. Engine speed too low.	Check engine speed. Run engine at full throttle.
	3. Mow speed not adjusted for turf conditions.	Adjust mow speed for best cut.

5.2 CONTROLLER LAMPS

The controller is a solid state device that monitors and controls electrical functions. The controller receives input signals from various switches and sensors throughout the machine and transmits output signals to operate relays, solenoids and warning lights. It controls and resets timers and contains built in logic to control certain machine functions.

Each input and output signal is displayed through lamps located on top of the controller. A closed input switch indicates an active circuit and will turn an input lamp on. An open switch an inactive circuit and will turn a lamp off. Outputs are active when their lights are on.

It is important to note that in some cases a lamp or group of lamps must be on or off for a condition to be true. For example, to start the mower the Mow Switch must be OFF (lamp 8 off) while the Neutral Start Switch (lamp 12), Brake Switch (lamp 6) and Fuel Valve Hold Coil (lamp 27) must be on.

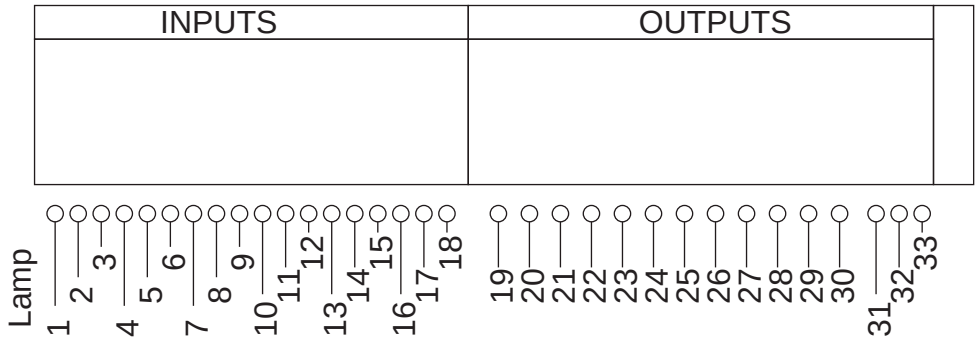
NOTICE

For factory assistance with troubleshooting controller problems, please note the controller hardware revision and software version located on the lower right corner of the controller. **[SEE 4.14]** Controllers with equal or greater revision levels will be backward compatible.

Controller Functions by Lamp Number

Lamp On - Circuit is active
Lamp Off - Circuit is inactive

INPUTS		OUTPUTS	
Lamp	**Circuit**	**Lamp**	**Circuit**
1,2,3,4	Program Select (1, 3 and 4 are not used)	**19**	Hydraulic Filter Light
5	Brake Switch	**20**	Hydraulic Oil Level Light
6	Seat Switch	**21**	Not Used
7	Traction Control Switch	**22**	Glowplug Light
8	Mow Switch	**23**	Lower Solenoid
9	Joystick - Lower	**24**	Raise Solenoid
10	Joystick - Raise	**25**	Glowplug Relay
11	Hydraulic Oil Level Switch	**26**	Start Relay
12	Neutral Switch	**27**	Fuel Solenoid - Hold
13	Not Used	**28**	Not Used
14	Keyswitch - Glowplug	**29**	Audible Alarm
15	Keyswitch - Start	**30**	Mow Solenoid
16	Joystick Active	**31**	Fuel Solenoid - Pull
17	Hydraulic Filter Switch	**32**	Power-Ignition
18	Engine Oil Pressure Switch	**33**	Power-Lights



5.3 ELECTRICAL CIRCUITS

When troubleshooting the machine using the controller always check that Program Active lamps (2) is on. This indicates that the controller has power and the program is active.

NOTICE

The controller requires a minimum of six volts to operate.

Individual circuits can be tested by operating an input switch, checking for the required input signal and looking for a corresponding output. Keep in mind that not all switches are located on the instrument panel. The traction pedal, reel lift limit and brakes are controlled by small proximity switches mounted on the frame of the mower.

If an input lamp does not light, an inactive condition is indicated. This could be caused by a fuse, faulty switch or poor connection.

The electrical connections to the solenoids on the hydraulic valves are also equipped with small indicator lamps. When lit, these lamps indicate that the output signal has reached the connection. If lamps do not come on, check wires to and from connector.

6 MAINTENANCE & LUBRICATION CHARTS

6.1 GENERAL

WARNING

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine and remove key from ignition switch to prevent injuries.

1. Always clean grease fittings before and after lubrication.
2. Lubricate with grease that meets or exceeds NLGI Grade 2 LB specifications. Apply grease with a manual grease gun and fill slowly until grease begins to seep out. Do not use compressed air.
3. For smooth operation of pivot points and other friction points, apply several drops of SAE 30 oil every 50 hours or as required.
4. Remove wheels and repack bearings once a year.

6.2 MAINTENANCE CHART

Recommended Service and Lubrication Intervals

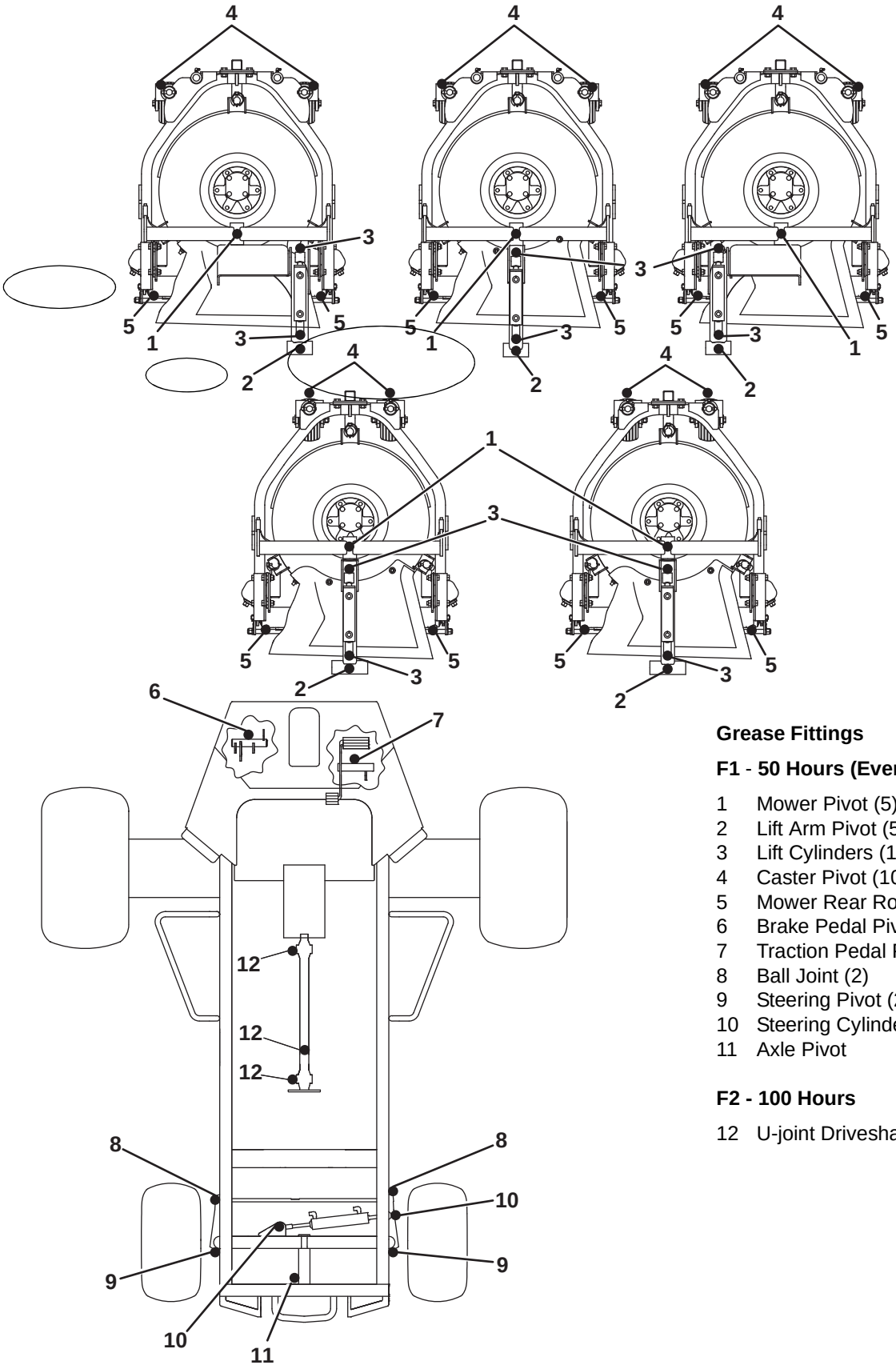
	Every 8-10 Hours	Every 50 Hours	Every 100 Hours	Every 250 Hours	Every 400 Hours	Every 500 Hours	Every 1000 Hours	Yearly	See Section	Lubricant Type
Air Cleaner			AR					R	4.4	
Battery Charge			I****						4.9	
Belt	I-A*		I-A			R			3.3	
Brake		I-A*		A					3.4	
Cooling System	I-C-A							R	4.15	
Engine Oil	I	R*	R						4.2	III
Engine Oil Filter		R*	R						4.3	
Fuel Lines and Clamps		I								
Fuel Filter					R				4.6	
Grease Fittings - F1		L							6.3	II
Grease Fittings - F2			L						6.3	II
Hydraulic Hoses and Tubes	I***			I					4.11	
Hydraulic Oil		I-A				R**			4.12	IV
Hydraulic Oil FIlters		R*				R-AR			4.13	
Muffler and Exhaust				I					4.10	
Radiator Screens	I-C/AR								4.15	
Tires		I-A							4.17	
Steering System		I*		I-A						
Wheel Bearings								L		I
Wiring		I*		I					4.14	

A - Add or Adjust C - Clean I - Inspect L- Lubricate R - Replace AR - As Required

* Indicates initial service for new machines.
** Or yearly, whichever comes first.
*** Inspect visible hoses and tubes for leaks or oil marks.
**** Inspect electrolyte level. See 4.7

I Pack bearings with NLGI Grade 2 (Service Class GB)
II Manual grease gun with NLGI Grade 2 (Service Class LB).
III Engine Oil - See Section 4.3
IV Jacobsen Hydraulic Oil - SAE 10W30 or Greens Care 68

6.3 LUBRICATION CHART



Grease Fittings

F1 - **50 Hours (Every Week)**

1 Mower Pivot (5)
2 Lift Arm Pivot (5)
3 Lift Cylinders (10)
4 Caster Pivot (10)
5 Mower Rear Roller (10)
6 Brake Pedal Pivot
7 Traction Pedal Pivot
8 Ball Joint (2)
9 Steering Pivot (2)
10 Steering Cylinder (2)
11 Axle Pivot

F2 - 100 Hours

12 U-joint Driveshaft (3)

7 PARTS CATALOG

7.1 HOW TO USE THE PARTS CATALOG

Abbreviations

N/S - Not serviced separately, can only be obtained by ordering main component or kit.

AR -Variable quantity or measurement is required to obtain correct adjustment.

Symbols such as ●, next to the item number, indicate that a note exists which contains additional information important in ordering that part.

Indented Items

Indented items indicate component parts that are included as part of an assembly or another component. These parts can be ordered separately or as part of the main component.

Item	Part No.	Qty	Description	Serial Numbers/Notes
● 1	123456	1	Mount, Valve	*Indicates a piece part*
2	789012	1	Valve, Lift	*Includes Items 3 and 4*
3	345678	1	• Handle	*Serviced part included with Item 2*
4	N/S	1	• Seal Kit	*Non serviced part included with Item 2*
5	901234	1	Screw, 1/4-20 x 2” Hex Head	

7.2 TO ORDER PARTS

1. Write your **full** name and **complete** address on the order.
2. Explain where and how to make shipment.
3. Give product number, name and serial number that is stamped on the name plate or serial plate of your product.
4. Order by the quantity desired, the part number, and description of the part as given in the parts list.
5. Send or bring the order to an authorized Jacobsen Distributor.
6. Inspect all shipments on receipt. If any parts are damaged or missing, file a claim with the carrier before accepting.
7. Do not return material without a letter of explanation, listing the parts being returned. Transportation charges must be prepaid.

Use of other than Jacobsen authorized parts will void the warranty.

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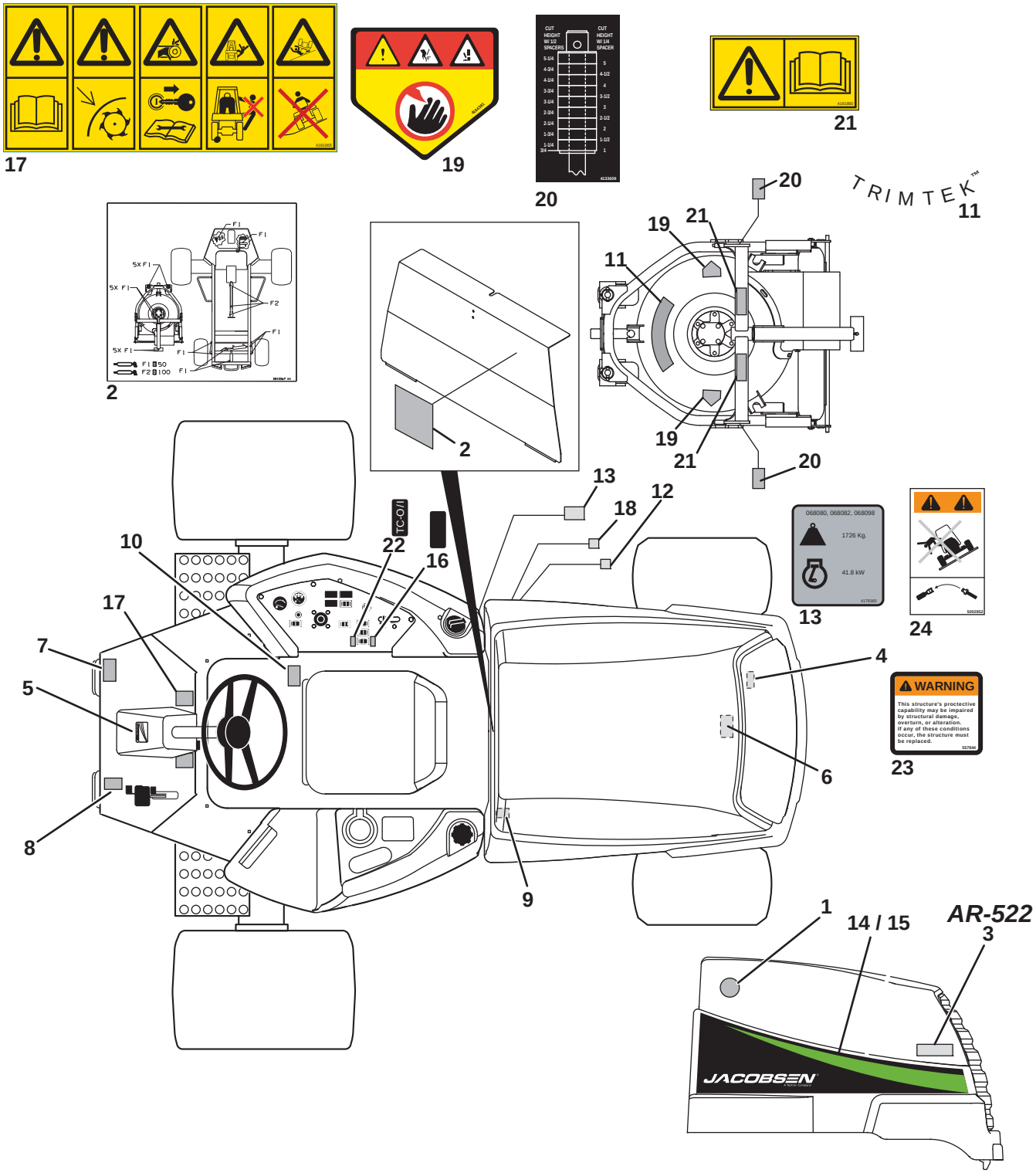
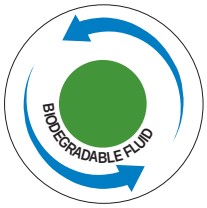
1.1 Decals

Serial No. All





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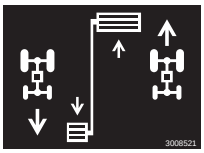
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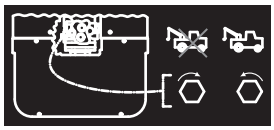
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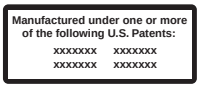

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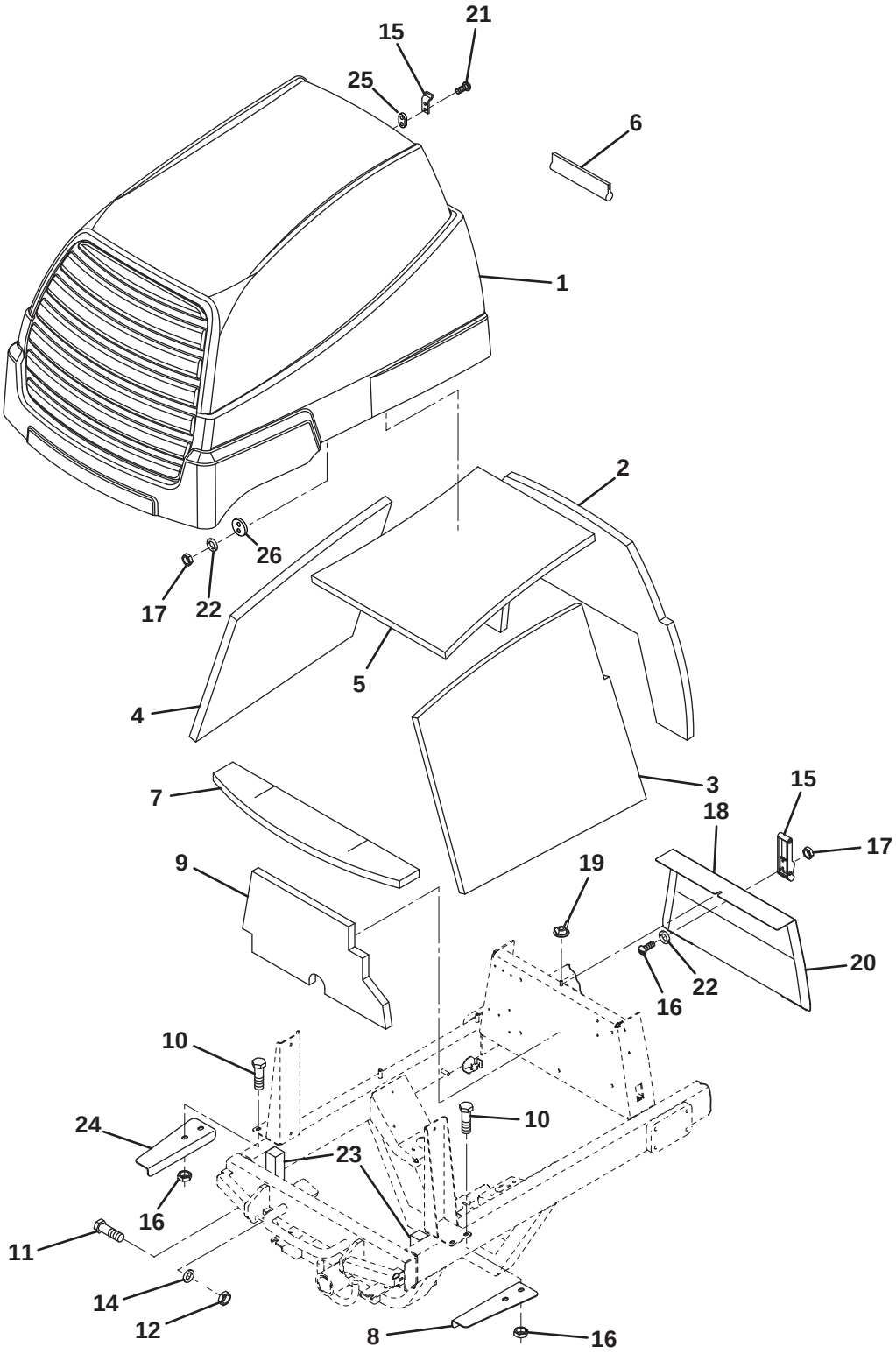
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4111408	2	Decal, Bio Fluid	
2	4134631	1	Decal, Service	
3	4177682	2	Decal, AR-522	
4	4181862	1	Decal, Radiator Warning	
5	4182386	1	Decal, Jacobsen Emblem	
6	4181861	1	Decal, Start Assist Fluids	
7	3008521	1	Decal, Traction Pedal	
8	3008522	1	Decal, Brake	
9	4181864	1	Decal, Battery Danger	
10	3008682	1	Decal, Tow Valve	
11	4179022	5	Decal, Trimtek™	
12	4194327	1	Decal, Patent	
13	4179360	1	Decal, Weight and Power	
14	4156720	1	Decal, Left Side Stripe	Included with hood
15	4156721	1	Decal, Right Side Stripe	Included with hood
16	4131772	1	Decal, Blank	
17	4181865	1	Decal, Warning	
18	4117468	1	Decal, Noise 105 dB	
19	4164381	10	Decal, Danger	2 on each cutting unit
20	4133609	10	Decal, Height of Cut	2 on each cutting unit
21	4181860	5	Decal, Read Manual	
22	4134870	1	Decal, TC-O/I	
23	557844	1	Decal, ROPS Structure Warning	Located on ROPS, See 7.1
24	5002952	1	Decal, ROPS Seat Belt Warning	Located on ROPS, See 7.1

> Change from previous revision

2.1 Hood

Serial No. All



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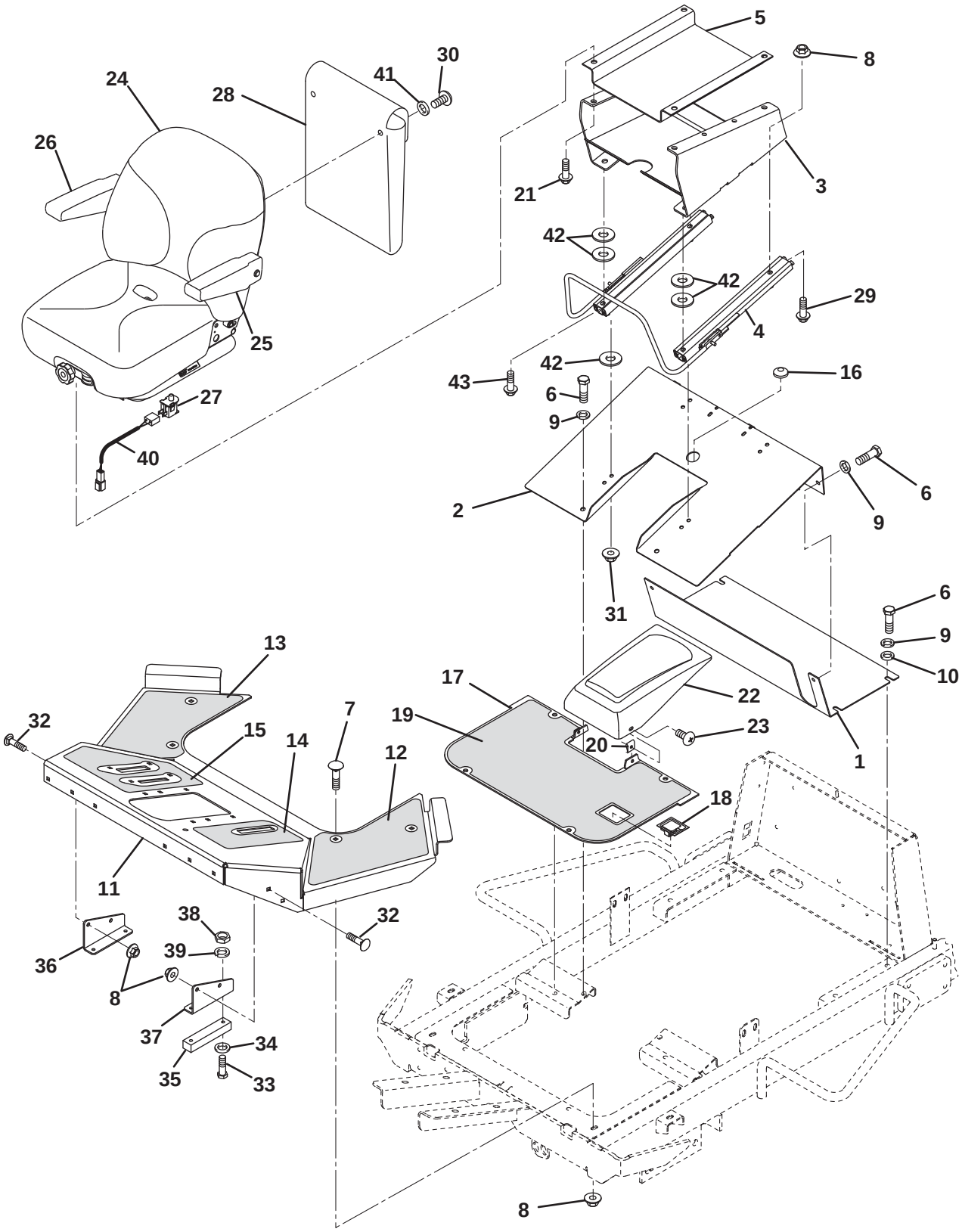
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4196101	1	Hood	Includes Decals
2	4196103	1	• Foam, Front	
3	4196105	1	• Foam, Right Side	
4	4196106	1	• Foam, Left Side	
5	4196104	1	• Foam, Top	
6	557620	4	• Molding	
7	4196102	1	• Foam, Hood Mount	
8	4129680	1	Seal, Right Side Air	
9	3007548	1	Foam, Control Module	
10	800794	4	Screw, 5/16-18 x 3/4 Hex Flange	
11	400408	2	Screw, 1/2-13 x 1-1/2” Hex Head	
12	444758	2	Locknut, 1/2-13 Center	
13	800907	4	Nut, 5/16-18 Hex Flange	
14	453017	2	Flat Washer, 1/2	
15	366883	1	Over Center Latch	
16	402056	2	Screw, #8-32 x 3/8” Slotted Head	
17	444306	4	Nut, #8-32 Hex	
18	3006873	1	Cover, Front Mount	
19	3008195	1	Wing Nut, 1/4-20 Steel	
20	3009210	1	Foam (Cut To Length)	
21	402066	2	Screw, #8-32 x 1” Slotted Head	
22	446110	4	Lockwasher, #8	
23	4138359	AR	Foam, Sealing	Cut two 5-1/2” pieces
24	4129679	1	Seal, Left Side Air	
25	4184080	1	Spacer, Front Hood	
26	4184081	1	Spacer, Rear Hood	

> Change from previous revision

3.1 Seat Pan

Serial No. 68098 - 1651 ~ 1750

Michigan Seat

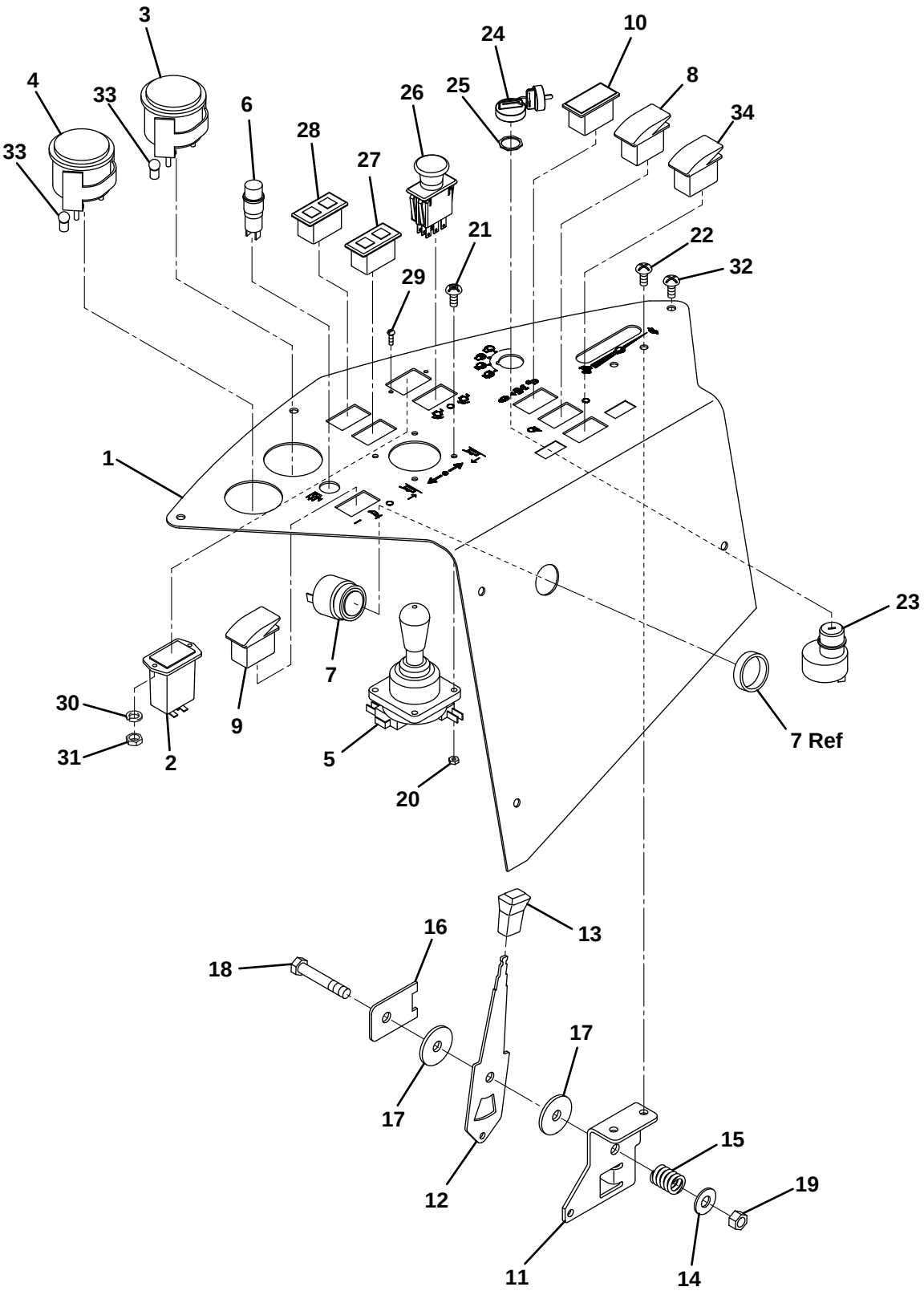


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004279	1	Floor Pan	
2	3009292	1	Seat Pan	
3	4139241	1	Support, Seat	
4	4131137	1	Adjuster, Double Latching	
5	4139237	1	Base, Seat	
6	400258	9	Screw, 3/8-16 x 3/4” Hex Head	
7	441602	4	Carriage Bolt, 5/16-18 x 3/4”	
8	445795	17	Nut, 5/16-18 Spiralock Flange	
9	446142	9	Lockwasher, 3/8 Heavy	
10	452008	4	Flat Washer, 3/8	
11	5003162	1	Platform	
12	3007609	1	• Pad, Left Floorboard	
13	3007610	1	• Pad, Right Floorboard	
14	3007611	1	• Pad, Left Foot	
15	3007612	1	• Pad, Right Foot	
16	315387	1	Grommet	
17	4133119	1	Floorboard	
18	4123723	1	• Latch, Panel	
19	4123725	1	• Pad, Center Floorboard	
20	445245	2	• Tinnerman Nut	
21	409812	4	Screw, 5/16-18 x 3/4” Thread Cutting	
22	3008218	1	Cover, Hydro	
23	404016	2	Screw, 1/4-20 x 5/8” Truss Head	
24	4139433	1	Suspension Seat Assembly	
	4139436	1	• Arm Rest Kit	
25	4139434	1	• • Arm Rest, L.H.	
26	4139435	1	• • Arm Rest, R.H.	
	64123-68	4	• • Bolt, 5/16-18 Hex	
27	4139450	1	• Switch, Seat	**REFERENCE SW-10, See 41.1**
28	3003928	1	Pouch, Literature	
29	403751	2	Screw, 5/16-18 X 3/4” Serr Washer	
30	800943	2	TScrew, #10-16 x 3/4” Plastic	
31	64246-02	4	Nut, M8-1.25 Whizlock Flange	
32	440078	4	Carriage Bolt, 5/16-18 x 1/2”	
33	400112	4	Screw, 1/4-20 x 1” Hex Head	
34	453023	4	Flat Washer, 1/4	
35	4133121	2	Stop, Deck	
36	4132917	1	Bracket, Right Side Deck Stop	
37	4132913	1	Bracket, Left Side Deck Stop	
38	444708	4	Locknut, 1/4-20 Center	
39	446128	4	Lockwasher, 1/4	
40	5003769	1	Seat Switch Harness	
41	452004	2	Flat Washer, 1/4	
42	831053	8	Spacer, Seat	
43	400190	2	Screw, 5/16-18 x 1-1/4” Hex Head	

> Change from previous revision

4.1 Control Panel

Serial No. All

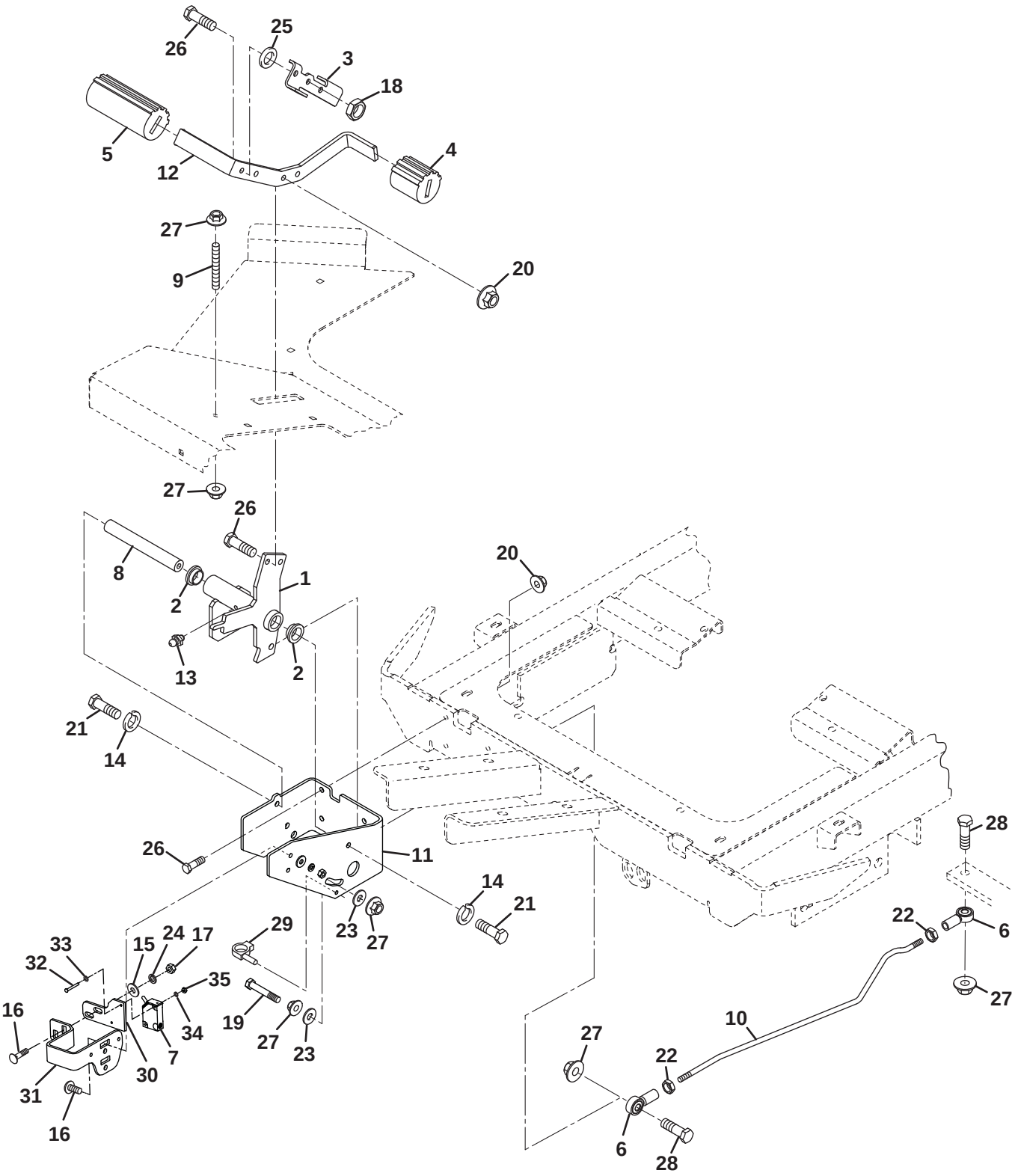


	Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	4130114	1	Instrument Panel	Includes silk screen decals
	2	4129683	1	Hour Meter, Quartz	**REFERENCE U-3, See 41.1**
	3	365943	1	Fuel Gauge	**REFERENCE U-2, See 41.1**
	4	3005121	1	Water Temperature Gauge	**REFERENCE U-1, See 41.1**
	5	1004290	1	Joystick, 1 Axis	**REFERENCE SW-12, See 41.1**
	6	366751	1	Indicator Light, Yellow	**REFERENCE L-7, See 41.1**
	7	366670	1	Horn	**REFERENCE U-4, See 41.1**
	8	4130132	1	Switch, Light	**REFERENCE SW-3, See 41.1**
>	9	4130133	1	Switch, Horn	**REFERENCE SW-5**
	10	4130134	1	Hole Plug	
	11	1002810	1	Bracket, Throttle	
	12	4135758	1	Lever, Throttle	
	13	366768	1	Knob	
	14	452008	1	Flat Washer, 3/8”	
	15	351956	1	Spring, Compression	
	16	3006035	1	Plate, Friction	
	17	360885	2	Washer, Friction	
	18	400272	1	Screw, 3/8-16 x 2-1/4” Hex Head	
	19	444762	1	Locknut, 3/8-16 Center	
	20	444310	4	Nut, #10-24 Hex	
	21	403912	4	Screw, #10-24 x 5/8” Truss Head	
	22	404016	2	Screw, 1/4-20 x 5/8” Truss Head	
	23	4128888	1	Switch Assembly, Key	**REFERENCE SW-2, See 41.1**
	24	4131618	1	• Key	
	25	N/S	1	• Nut	
	26	4174684	1	Switch, PTO	**REFERENCE SW-11, See 41.1**
	27	4130148	1	Light, Indicator Fluids	**REFERENCE L3 & L4, See 41.1**
	28	4130149	1	Light, Indicator Electric	**REFERENCE L5 & L6, See 41.1**
	29	402006	2	Screw, #6-32 x 1/2 SL RD HD	
	30	446106	2	Lockwasher, #6 Heavy	
	31	444304	2	Nut, #6-32 Hex	
	32	403908	6	Screw, #10-24 x 3/8” Truss Head	
	33	3001376	2	Bulb, Lamp	
	34	4137524	1	Switch, Traction Control	**REFERENCE SW-5**

> Change from previous revision

5.1 Traction Pedal

Serial No. All

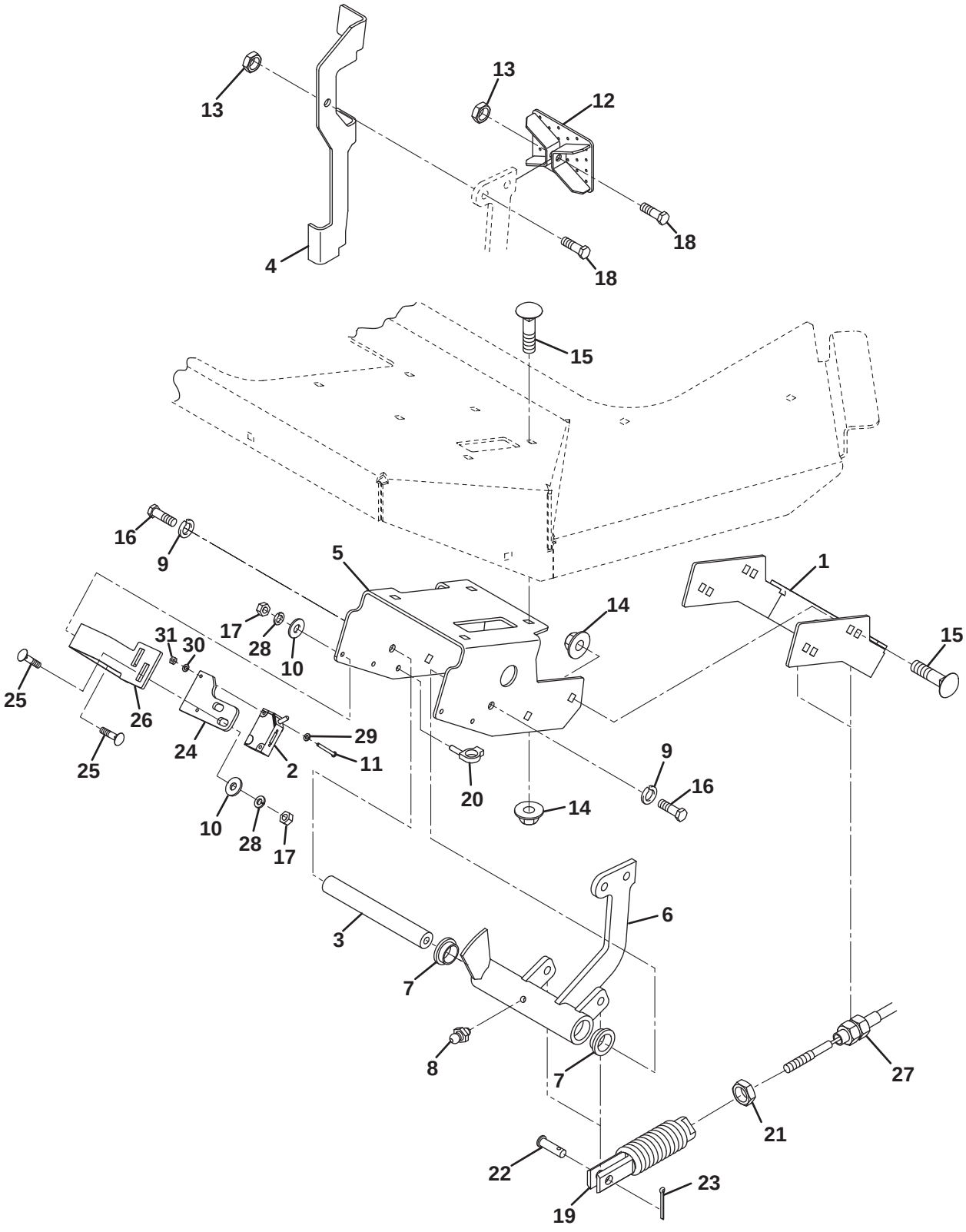


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1003288.7	1	Treadle Pivot	
2	352726	2	• Bushing	
3	3007230	1	Stop, Mow Speed	
4	3003474	1	Grip, Pedal	
5	3003475	1	Grip, Pedal	
6	366974	2	Rod End	
7	4125831	1	Switch, Proximity	**REFERENCE SW-7, See 41.1**
8	3006327	1	Shaft, Turn Assist	
9	333542	1	Tie Stud	
10	3006998	1	Rod, Hydro	
11	4176562	1	Bracket, Hydro Mount	
12	4132912	1	Pedal, Hydro	
13	471214	1	Fitting, Grease	
14	446136	2	Lockwasher, 5/16 Heavy	
15	452004	4	Flat Washer, 1/4	
16	440042	4	Bolt, Carriage 1/4 - 20 UNC x 3/4	
17	443102	4	Nut, 1/4 - 20 Hex Head	
18	444718	1	Locknut, 5/16-18 Center	
19	400272	1	Screw, 3/8-16 x 2-1/4” Hex Head	
20	445795	6	Nut, 5/16-18 Spiralock Flange	
21	400182	2	Screw, 5/16-18 x 5/8” Hex Head	
22	443112	2	Nut, 3/8-24 Hex	
23	452008	2	Flat Washer, 3/8	
24	446128	4	Lockwasher, 1/4	
25	3002695	1	Washer	
26	400188	7	Screw, 5/16-18 x 1” Hex Head	
27	445796	6	Nut, 3/8-16 Spiralock Flange	
28	400264	2	Screw, 3/8-16 x 1-1/4” Hex Head	
29	3008383	1	Clip, Wire Harness	
30	4176580	1	Plate, Proximity Switch Mount	
31	4182392	1	Bracket, Neutral Switch	
32	800440	2	Screw, #4-40 x 1	
33	308404	2	Flat Washer, .12 .25 .02 YS	
34	446102	2	Washer, Lock #4 Reg.	
35	444302	1	Nut, #4 - 40 Hex	

> Change from previous revision

6.1 Brake Pedal

Serial No. All

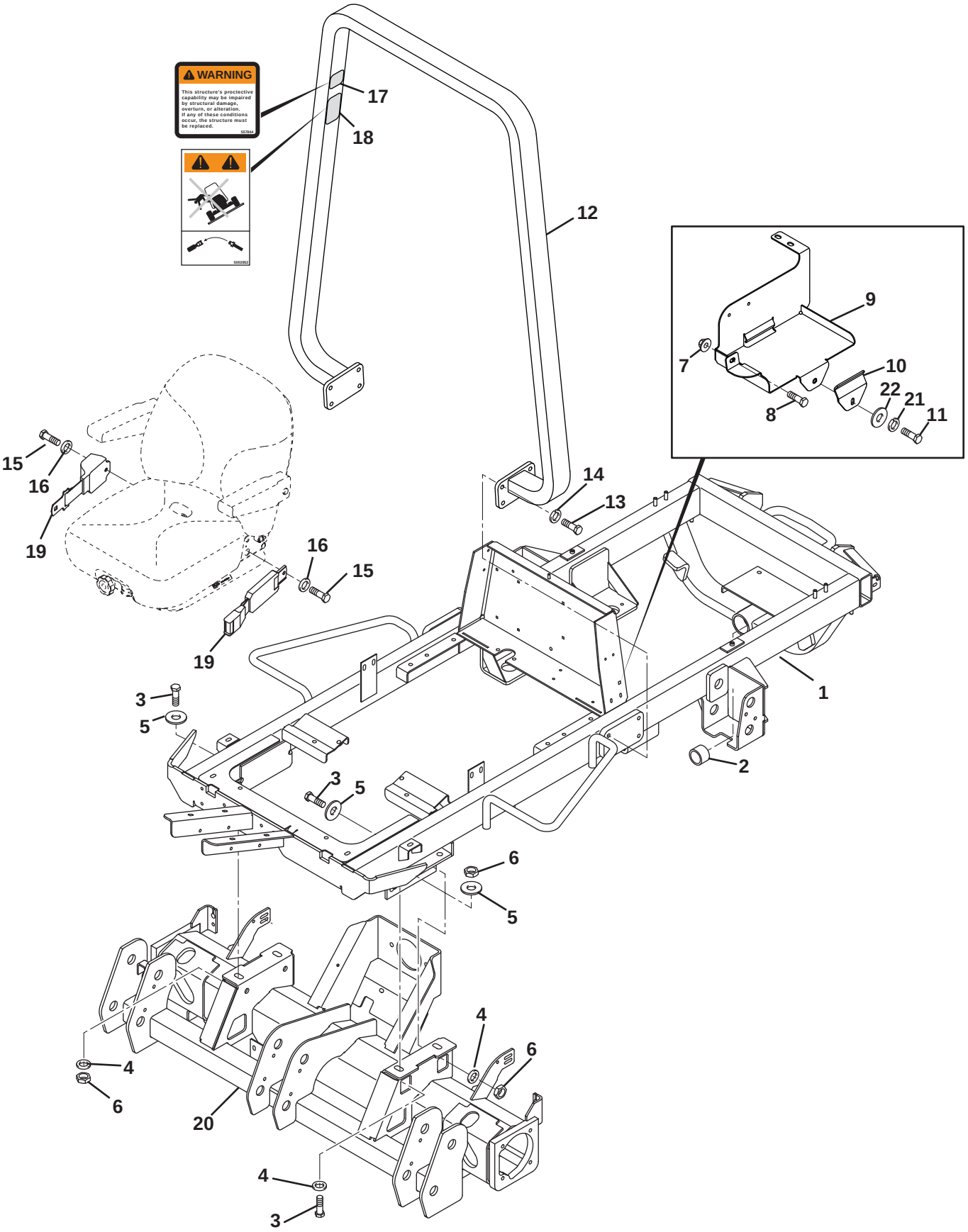


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4142455	1	Bracket, Brake	
2	4125831	1	Switch, Proximity	**REFERENCE SW-8, See 41.1**
3	3006327	1	Shaft, Turn Assist	
4	3007606	1	Lever, Parking Brake	
5	4192220	1	Mount, Brake	
6	1003616	1	Brake Arm	
7	352726	2	• Bushing	
8	471214	1	Grease Fitting	
9	446136	2	Lockwasher, 5/16 Heavy	
10	452004	4	Flat Washer, 1/4	
11	800440	2	Screw, #4 - 40 x 1”	
12	1003872	1	Pedal	
13	444718	2	Locknut, 5/16-18 Center	
14	445795	8	Nut, 5/16-18 Spiralock Flange	
15	441602	8	Carriage Bolt, 5/16-18 x 3/4”	
16	400182	2	Screw, 5/16-18 x 5/8” Hex Head	
17	443102	4	Nut, 1/4-20 Hex	
18	400188	2	Screw, 5/16-18 x 1” Hex Head	
19	4108161	2	Brake Spring Assembly	
20	3008383	1	Clip, Wire Harness	
21	443812	2	Nut, 3/8-24 Hex Jam	
22	461451	2	Clevis Pin, 5/16 x 15/16”	
23	460014	2	Cotter Pin, 3/32 x 3/4”	
24	4176580	1	Plate, Proximity Switch Mount	
25	440042	4	Bolt, Carriage 1/4-20 x 3/4”	
26	4182391	1	Bracket, Brake Switch	
27	REF		Brake Cable	See 8.1
28	446128	4	Lockwasher 1/4 Regular	
29	308404	2	Flat Washer, .12 .25 .02	
30	446102	2	Lockwasher #4	
31	444302	2	Nut, #4-40 Hex	

> Change from previous revision

7.1 Frame

Serial No. All

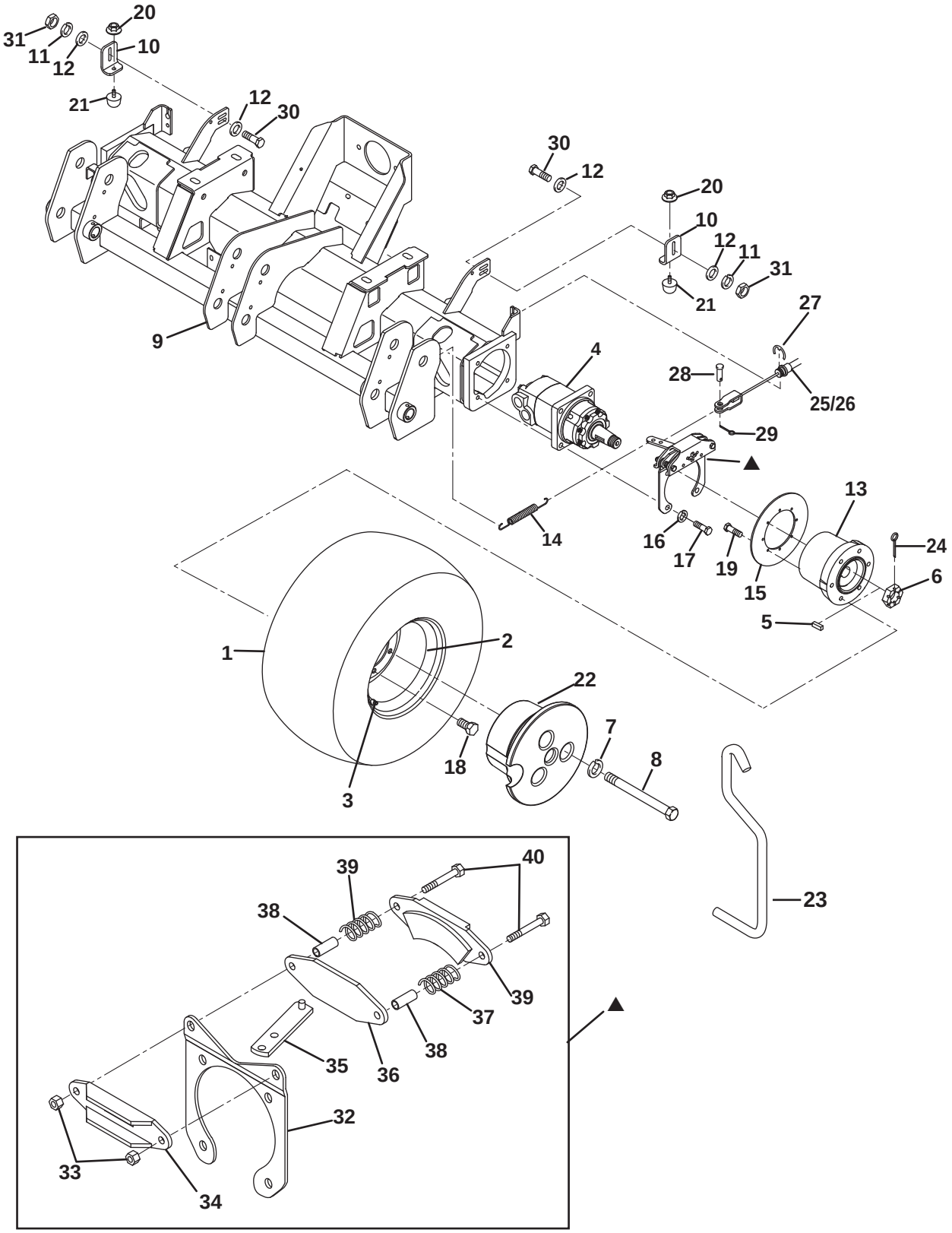


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4169363	1	Frame	
2	366871	2	• Bushing	
3	4113047	6	Screw, 5/8-18 x 1-1/2” Hex Head	Grade 8 Bolt
4	4140094	6	Flat Washer, 5/8	
5	452016	6	Flat Washer, 5/8	
6	443128	6	Nut, 5/8-18 Hex	
7	445795	1	Nut, 5/16-18 Spiralock Flange	
8	441602	1	Bolt, 5/16-18 x 3/4” Carriage	
9	4193161	1	Battery Tray	
10	4192520	1	Clamp, Battery	
11	400188	1	Screw, 5/16-18 x 1” Hex Head	
12	67844	1	ROPS Assembly	
13	5000465	8	• Screw, 1/2-13 x 1-1/4” Hex GR 8	
14	446154	8	• Lockwasher, 1/2 Heavy	
15	400370	2	• Screw, 7/16-20 x 1” Hex Head	Grade 8
16	446148	2	• Lockwasher	
17	557844	1	• Decal, ROPS Structure Warning	
18	5002952	1	• Decal, ROPS Seat Belt Warning	
19	4193182	1	• Seat Belt Kit	
20	REF	1	Front Axle	See 8.1
21	446134	1	Lockwasher, 5/16	
22	452006	1	Flat Washer, 5/16	

> Change from previous revision

8.1 Front Axle

Serial No. All

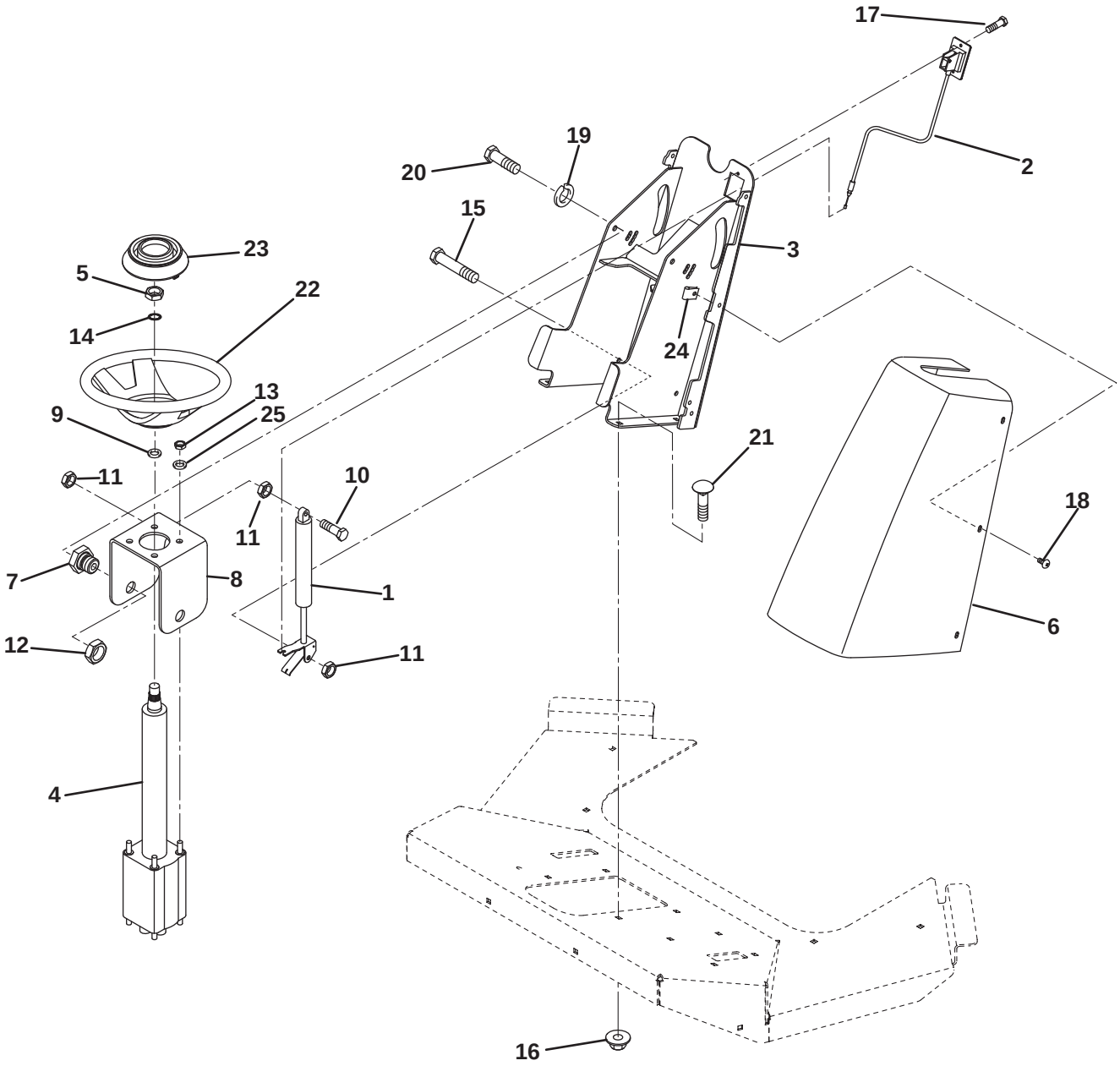


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4133033	2	Tire	
2	5002574	2	Rim	
3	360111	2	Valve, Inflation	
4	4195141	2	Wheel Motor	See 34.1
5	557623	2	• Key	
6	557624	2	• Nut, Hex	
7	446152	6	Lockwasher, 1/2	
8	400458	6	Screw, 1/2-20 x 4-1/2” Hex Head	
9	4181102	1	Front Axle	
10	4133054	2	Bracket, Angle Upstop	
11	446128	4	Lockwasher, 1/4	
12	453023	8	Flat Washer, 1/4	
13	2000141	2	Hub, Wheel	
14	3007862	2	Spring, Extension	
15	340486	2	Disk Brake	
16	446154	8	Lockwasher, 1/2 Heavy	
17	400410	8	Screw, 1/2-13 x 1-3/4” Hex Head	
18	353914	6	Wheel Bolt	
19	400108	16	Screw, 1/4-20 x 3/4” Hex Head	
20	445781	2	Nut, 5/16-18 Whizlock Flange	
21	523126	2	Bumper, Rubber	
22	4149137	2	Wheel Weight, 100 lb	
23	4159290	1	Wheel Weight Lift Hook	Used to remove and install weight
24	460093	2	Cotter Pin, 1/8 x 2-1/2”	
25	1003047	1	Cable, Right Brake	
26	1003048	1	Cable, Left Brake	
27	557771	2	• Clip, Brake Cable	
28	461493	2	Clevis Pin, 5/16 x 3/4”	
29	460014	2	Cotter Pin, 3/32 x 3/4”	
30	400114	4	Screw, 1/4-20 x 1-1/4” Hex Head	
31	443102	4	Nut, 1/4-20 Hex	
32	340603	2	Bracket, Brake Mounting	
	503308	1	Disk Brake, R.H.	
	2500722	1	Disk Brake, L.H.	
33	590259	4	• Nut, 3/8-24	
34	549441	2	• V-Plate	
35	502517	1	• Cam Lever	
36	503296	2	• Stud Plate with Lining	
37	549443	4	• Spring	
38	554579	4	• Spacer, Brake	
39	503295	2	• Rib Plate with Lining	
40	590260	4	• Screw, 3/8-24 x 2-1/4”	

> Change from previous revision

9.1 Tilt Steering

Serial No. 68098 - 1651 ~ 1808

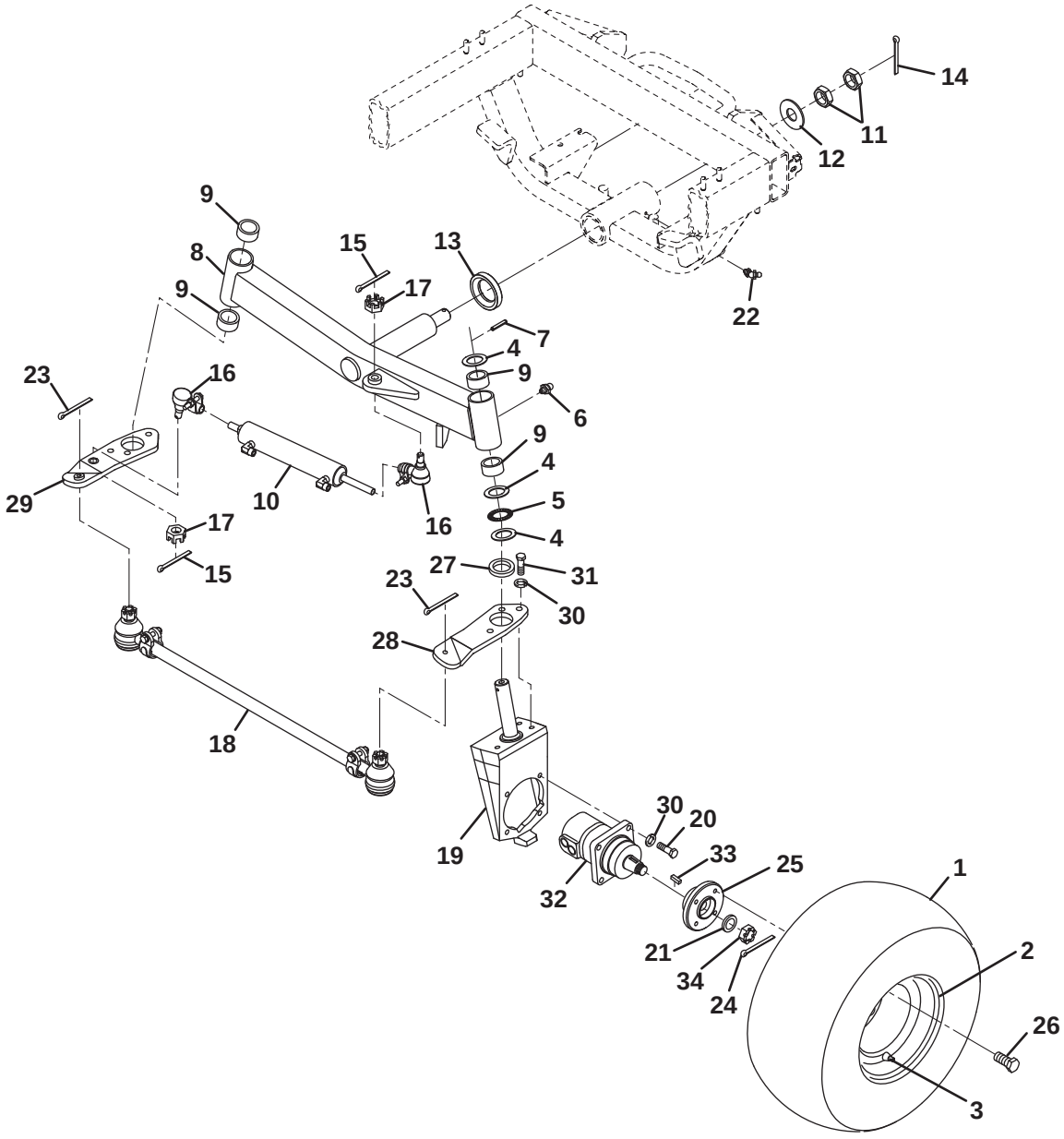


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5002918	1	Actuator, Gas Spring	
2	5002919	1	Cable, Actuator	
3	2811346	1	Tower, Steering	
4	4146776	1	Valve, Steering	See 38.1
	339979	3	• Adapter, Straight	
	339974	2	• Adapter, Straight	
5	443828	1	• Nut, 5/8-18 Hex Jam	
6	3010651	1	Cover, Steering Tower	
7	3005934	2	Bolt, Shoulder	
8	3005981	1	Bracket, Steering Pump	
9	2811547	1	Washer	
10	400192	1	Screw, 5/16-18 x 1-1/2” Hex Head	
11	444718	3	Locknut, 5/16-18 Center	
12	444849	2	Locknut, 3/4-10 Center Jam	
13	444754	4	Locknut, 5/16-24 Center	
14	447224	1	Lockwasher, 5/8 Internal	
15	400216	1	Screw, 5/16-18 x 2-3/4” Hex Head	
16	445795	4	Nut, 5/16-18 Spiralock Flange	
17	416911	2	Screw, #10-24 x 1/2” Thread Cutting	
18	404016	6	Screw, 1/4-20 x 5/8” Truss Head	
19	446142	2	Lockwasher, 3/8 Heavy	
20	400258	2	Screw, 3/8-16 x 3/4” Hex Head	
21	441614	4	Carriage Bolt, 5/16-18 x 1”	
22	2811364	1	Steering Wheel	
23	2811365	1	• Cap, Steering Wheel	
24	445245	6	Tinnerman Nut	
25	453009	4	Washer, Flat	

> Change from previous revision

10.1 Rear Axle

Serial No. All



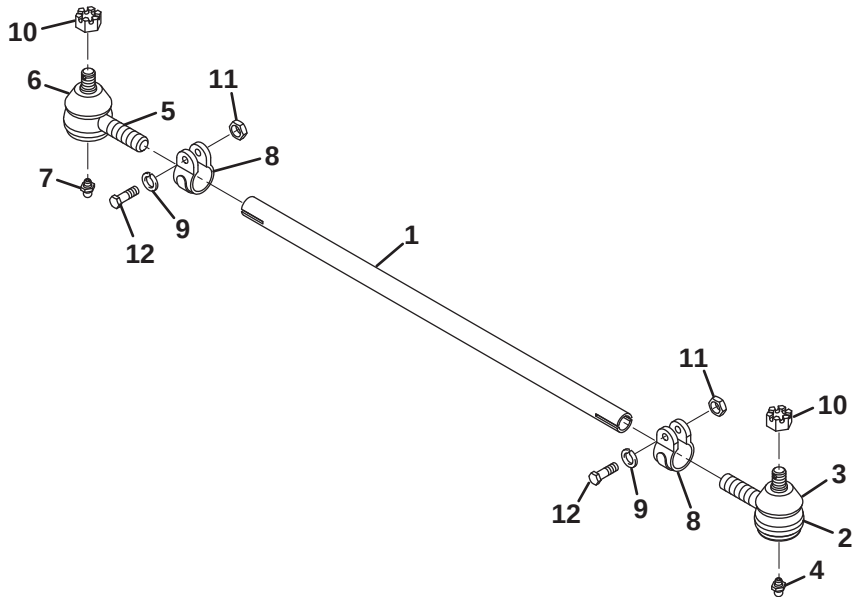
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4149337	2	Tire, 22.5 x 10-8 4 Ply	
2	1003638	2	Rim	
3	360111	2	Inflation Valve	
4	361648	6	Washer, Thrust	
5	361647	2	Bearing, Thrust	
6	471214	2	Fitting, Grease	
7	461393	2	Pin, Spring 1/4 x 2”	
8	4151058	1	Steering Axle	
9	3010489	4	• Bushing	
10	4137137	1	Cylinder, Steering	
	4137139	1	• Seal Kit	
11	443840	2	Nut, 1-12 Hex Jam	
12	452022	1	Flat Washer, 1	
13	366789	1	Spacer, Axle	
14	460064	1	Cotter Pin, 1/4 x 1-1/2”	
15	460026	2	Cotter Pin, 1/8 x 3/4”	
16	4141925	2	Ball Joint	
	400194	2	• Screw, 5/16-18 x 1-3/4”	
	444718	2	• Locknut, 5/16-18 Hex	
17	445666	2	• Nut, 1/2-20 Slotted Hex	
18	4132688	1	Tie Rod	See 11.1
19	4149118	2	Motor Mount	
20	400410	8	Screw, 1/2-13 x 1-3/4” Hex Head	
21	361451	2	Washer, Thrust	
22	471227	1	45° Grease Fitting	
23	460028	2	Cotter Pin, 1/8 x 1”	
24	460032	2	Cotter Pin, 1/8 x 1-1/2”	
25	2000012	2	Hub, Wheel	
26	353914	8	Wheel Bolt	
27	367350	2	Washer, Thrust	
28	4132699	1	Arm, Left Steering	
29	4141934	1	Arm, Right Steering	
30	446154	14	Lockwasher, 1/2 Heavy	
31	400406	6	Screw, 1/2-13 x 1-1/4” Hex Head	
32	4118255	2	Wheel Motor, Disk Valve	See 35.1
33	554780	2	• Key	
34	554779	2	• Nut	

> Change from previous revision

Serial No. All

11.1 Tie Rod

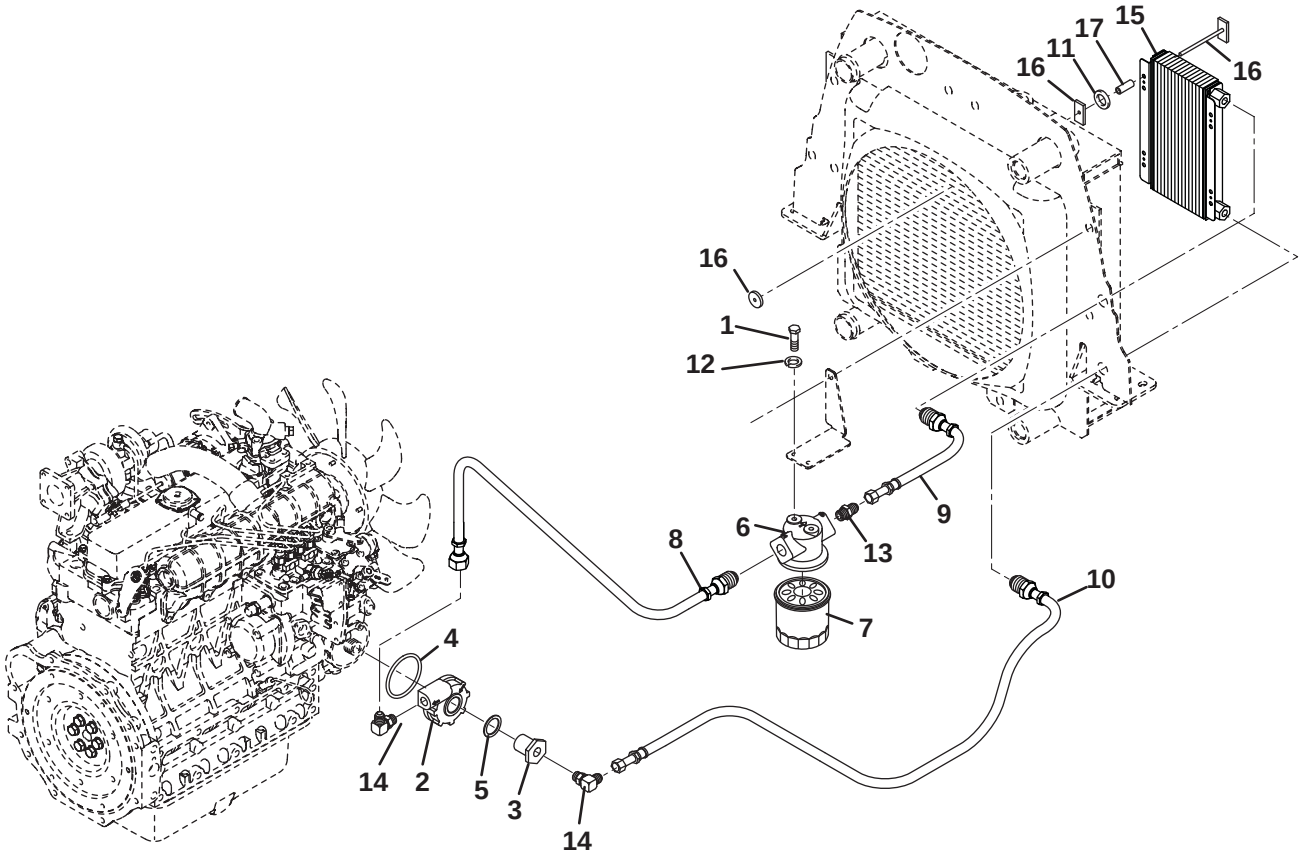
Part Number 4132688



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4118210	1	Tie Rod	
2	4121828	1	Ball Joint, Left Hand Thread	
3	4121986	1	• Dust Cover	
4	471214	1	• Straight Grease Fitting, 1/4-28	
5	4121829	1	Ball Joint, Right Hand Thread	
6	4121986	1	• Dust Cover	
7	471214	1	• Straight Grease Fitting, 1/4-28	
8	322847	2	Clamp, Tie Rod	
9	446136	2	Lockwasher, 5/16 Heavy	
10	4124204	2	Nut, 9/16-18 Slotted Hex	
11	443106	2	Nut, 5/16-18 Hex	
12	400192	2	Screw, 5/16-18 x 1-1/4” Hex Head	

> Change from previous revision

12.1 Remote Engine Oil Cooler

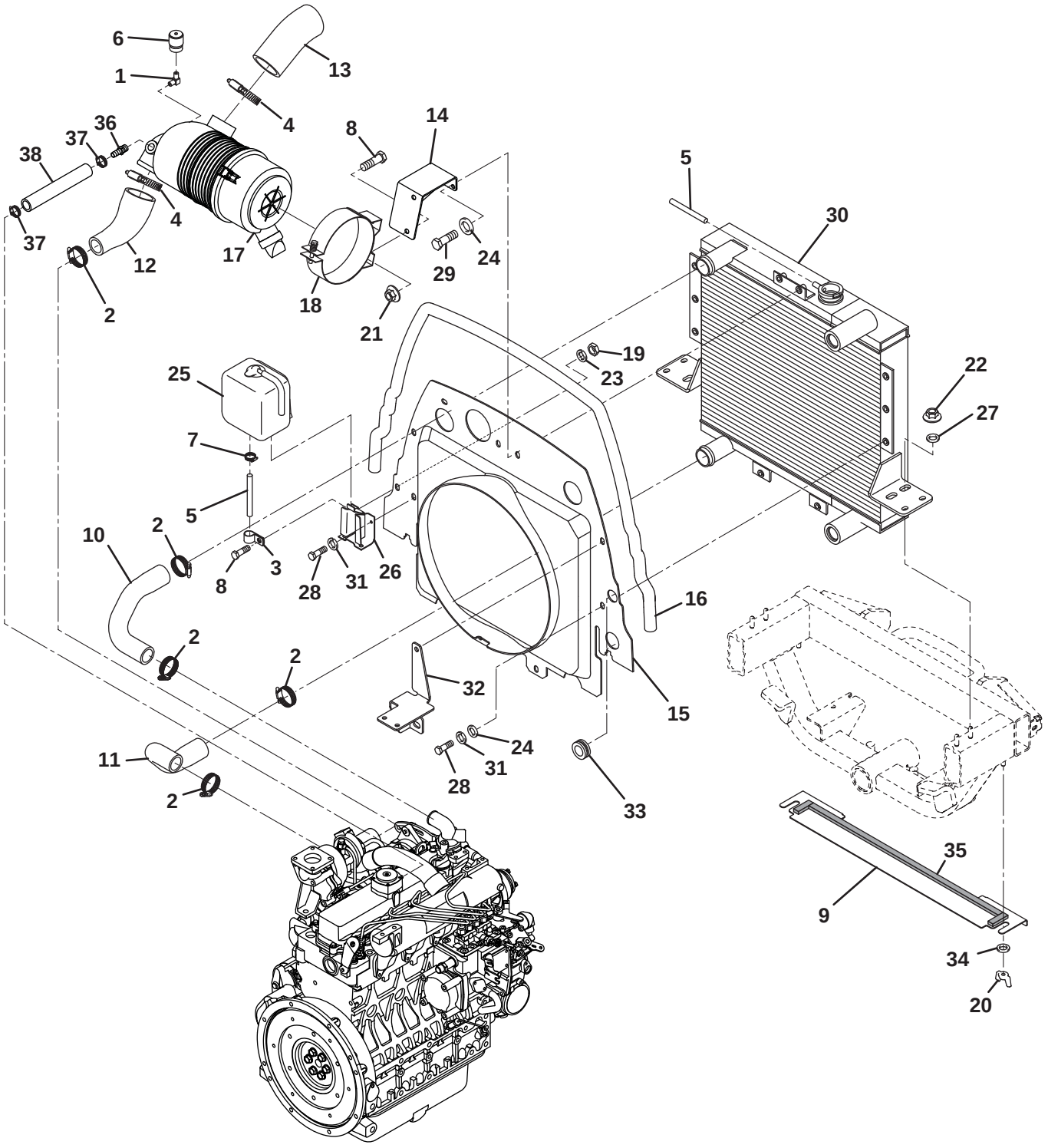


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	450190	2	Screw, M8-1.25 x 16 mm Hex Head	
	4133238	1	Kit, Remote Oil Filter	Included with Engine
2	4133239	1	• Adapter, Engine Oil Filter	
3	4133240	1	• Plug, Engine Oil FIlter	
4	4133241	1	• O-Ring	
5	4133242	1	• Washer	
6	4133243	1	• Head, Engine Oil FIlter	
7	4113986	1	Engine Oil Filter	Included with Engine
8	4135261	1	Hose, Engine to Filter	
9	4182500	1	Hose, Filter to Engine Oil Cooler	
10	4182501	1	Hose, Engine Oil Cooler to Engine	
11	452004	4	Flat Washer, 1/4	
12	446136	2	Lockwasher, 5/16 Heavy	
13	4186441	1	Adapter, Straight	
14	4137099	2	Adapter, 90°	
15	4182460	1	Engine Oil Cooler	
16	4133252	4	Tie, 3 Piece Cooler Mounting	
17	4197640	4	Tube, Spacer	

> Change from previous revision

13.1 Radiator and Air Cleaner

Serial No. All

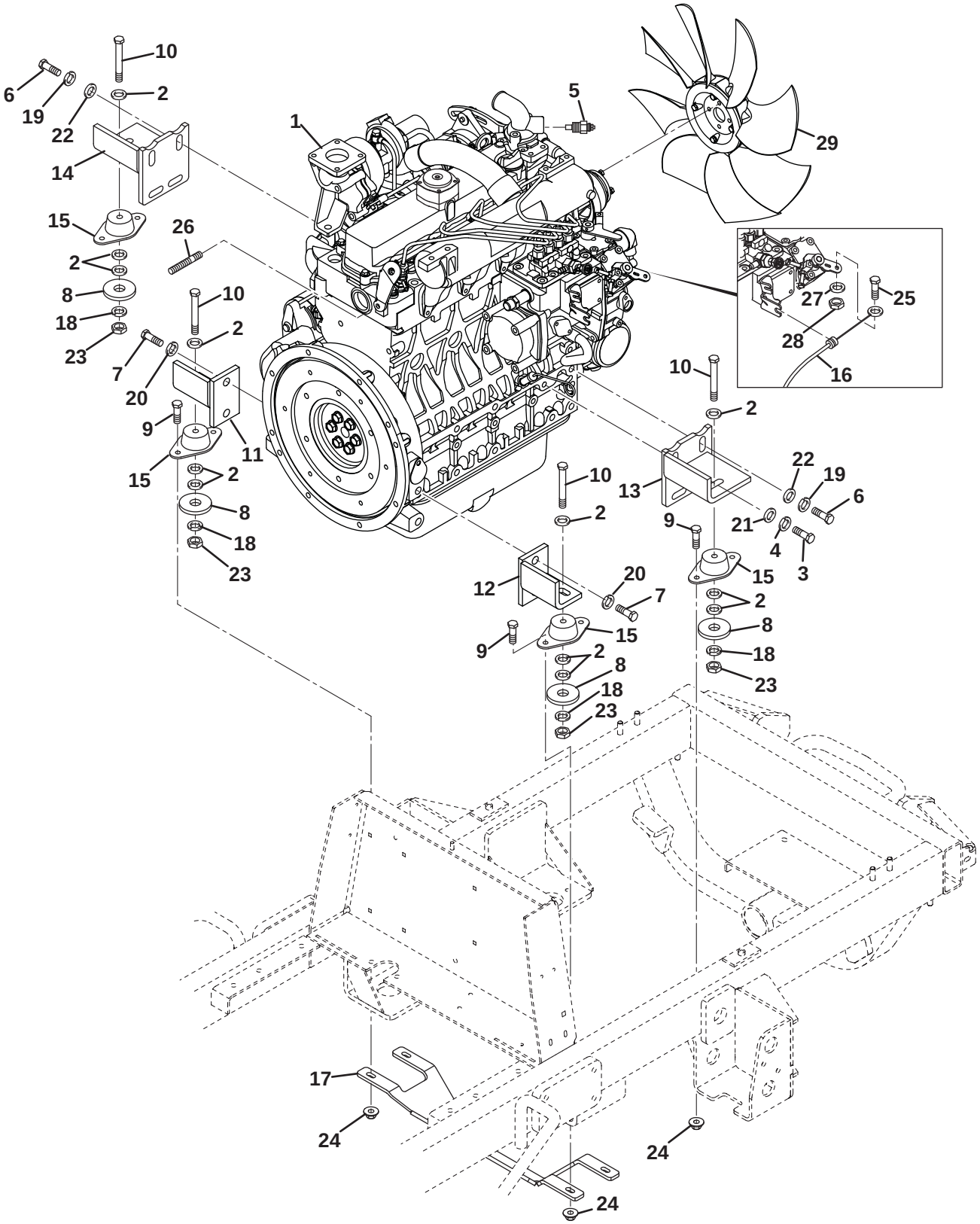


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3002195	1	Elbow, 1/8 NPF 90°	
2	326112	5	Clamp, 1-5/16 to 2-1/4” Dia Hose	
3	345666	1	Clamp, 1/2” P Hose	
4	337229	2	Clamp, Hose	
5	5003447	AR	Tube, Neoprene	Cut to 33”
6	365398	1	Indicator, Air Cleaner	
7	366526	2	Clamp, 1/4” to 5/8” Dia Hose	
8	400188	3	Screw, 5/16-18 x 1” Hex Head	
9	4138381	1	Shroud, Rear Frame	
10	4177720	1	Hose, Radiator Inlet	
11	4177740	1	Hose, Radiator Outlet	
12	4120976	1	Hose, Air Cleaner to Engine	
13	4120977	1	Hose, Shroud to Air Cleaner	
14	4177901	1	Bracket, Air Cleaner	
15	4163381	1	Shroud, Fan	
16	4128079A	1	Seal, Trim	
17	4189940	1	Air Cleaner	
	4133818	1	• Cover, Air Cleaner	
	4133820	1	• Filter, Primary Air Cleaner	
	4133821	1	• Filter, Safety Air Cleaner	
	5003373	1	• Vactuator Valve	
18	4128084	1	Bracket, Air Cleaner Mount	
19	444718	1	Locknut, 5/16-18 Center	
20	445640	2	Nut, 3/8-16 Steel Wing	
21	445795	2	Nut, 5/16-18 Spiralock Flange	
22	445796	4	Nut, 3/8-16 Spiralock Flange	
23	452006	1	Flat Washer, 5/16	
24	452008	7	Flat Washer, 3/8	
25	557367	1	Reserve Tank	
26	557374	1	Stay, Tank	
27	358794	4	Flat Washer, 3/8	
28	400264	6	Screw, 3/8-16 x 1-1/4” Hex Head	
29	400262	2	Screw, 3/8-16 x 1” Hex Head	
30	4180020	1	Radiator / Hydraulic Oil Cooler	
	550863	1	• Radiator Cap	
31	446140	8	Lockwasher, 3/8	
32	4133244	1	Bracket, Remote Oil Filter	
33	829997	2	Grommet	
34	452010	2	Flat Washer, 1/4	
35	4138380	AR	Seal, Bulk	Cut two 2-1/4” and one 25”
36	4190020	1	Fitting, 3/8 NPT	
37	830930	2	Hose Clamp	
38	4201661	1	Hose, 7/16	

> Change from previous revision

14.1 Engine Mounting

Serial No. All

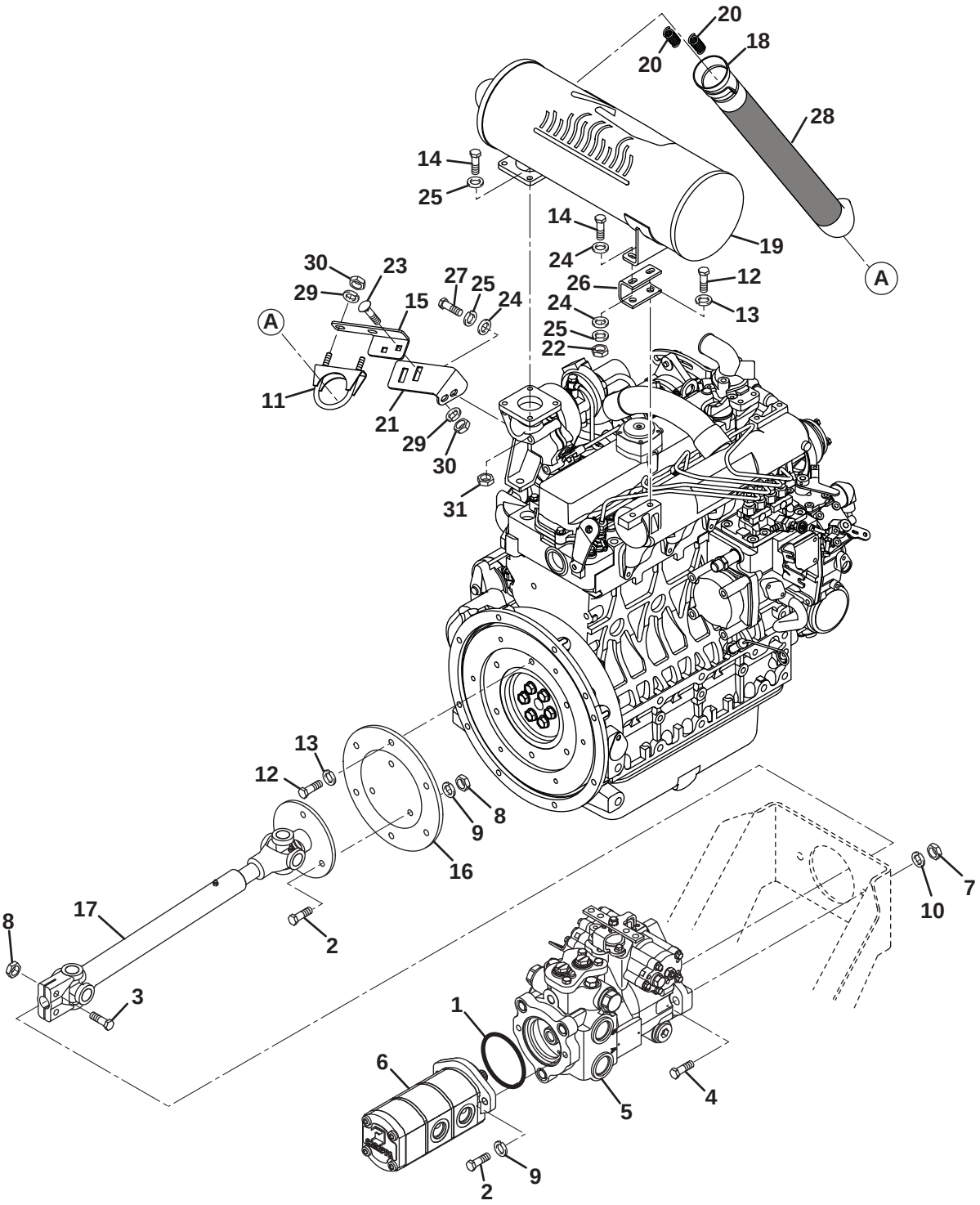


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4163204	1	Engine, V2403-M-T	
	4113986	1	• Filter, Engine Oil	See 12.1
2	310711	12	Washer, Isolator	
3	362263	1	Screw, M10-1.25 x 25mm Hex Head	
4	363485	1	Lockwasher, M10 Heavy	
5	364501	1	Temperature Sender	
6	365979	7	Screw, M12-1.25 x 25mm Hex Head	
7	365981	4	Screw, M14-1.5 x 25mm Hex Head	
8	367031	4	Washer, Isolator	
9	400190	8	Screw, 5/16-18 x 1-1/4” Hex Head	
10	400276	4	Screw, 3/8-16 x 3” Hex Head	
11	4165143	1	Engine Mount, Right Side Front	
12	4165135	1	Engine Mount, Left Side Front	
13	4120313	1	Engine Mount, Left Side Rear	
14	4120315	1	Engine Mount, Right Side Rear	
15	4133840	4	Isolator, Engine	
16	4174240	1	Cable, Throttle	
17	4185520	1	Bracket, Oil Pan Protection	
18	446142	4	Lockwasher, 3/8 Heavy	
19	446154	7	Lockwasher, 1/2 Heavy	
20	446160	4	Lockwasher, 9/16 Heavy	
21	453013	1	Flatwasher, 7/16	
22	453017	7	Flatwasher, 1/2	
23	443110	4	Nut, 3/8-16 Hex	
24	445795	8	Nut, 5/16-18 Spiralock Flange	
25	400108	1	Screw, 1/4-20 x 3/4” Hex Head	
26	4135765	1	Stud, M8-1.25	
27	453023	1	Flat Washer, 1/4	
28	444708	1	Locknut, 1/4-20 Center	
29	4179804	1	Fan, 8 Blade	

> Change from previous revision

15.1 Pump Mounting and Engine Exhaust

Serial No. All

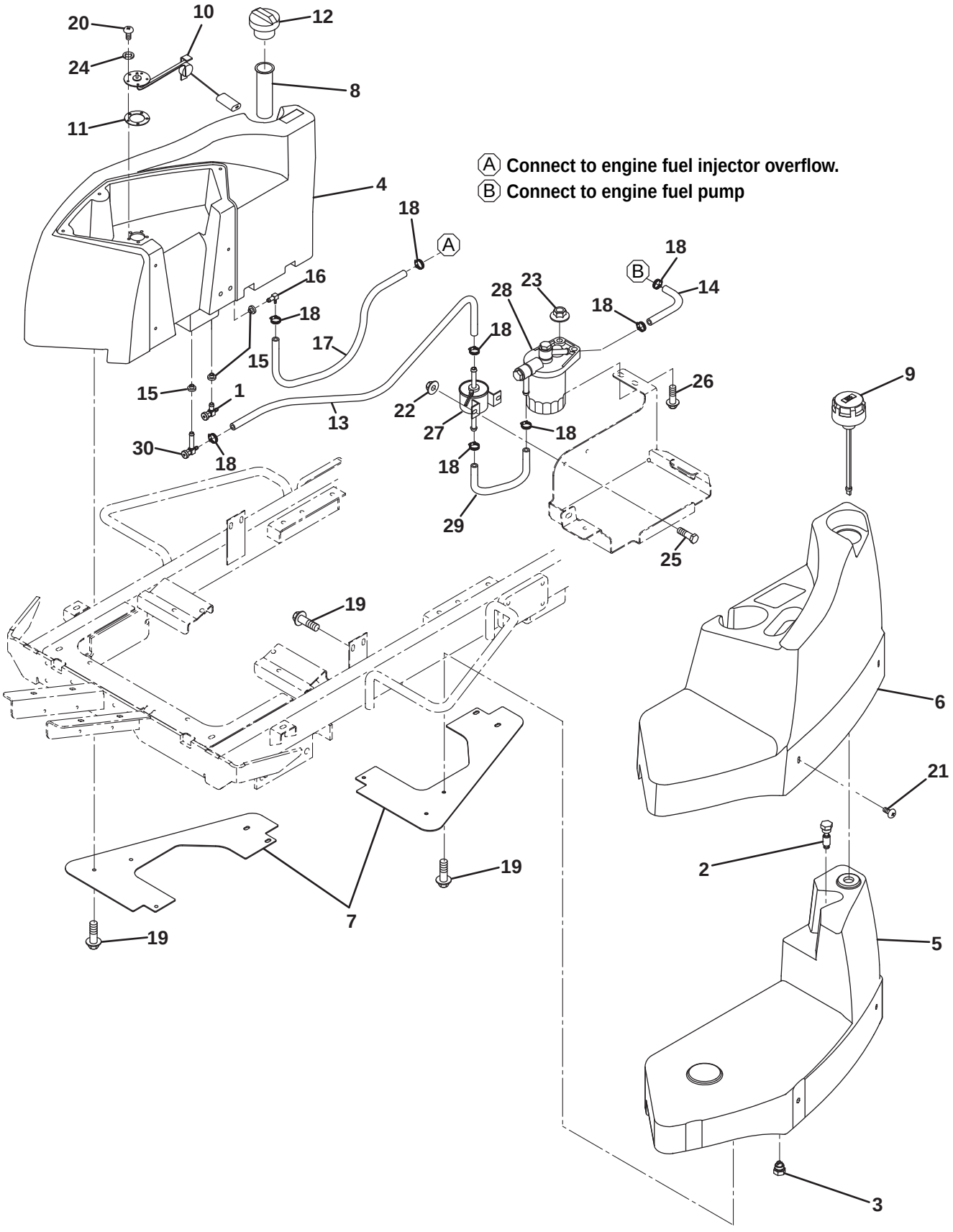


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	362743	1	O-Ring Seal	
2	400264	5	Screw, 3/8-16 x 1-1/4” Hex Head	
3	400286	2	Screw, 3/8-16 x 2-3/4” Hex Head	
4	400410	2	Screw, 1/2-13 x 1-3/4” Hex Head	
5	4118252	1	Pump, Traction	See 39.1 and 40.1
6	4174880	1	Pump, 3 Section Gear	
	4174881	1	• Seal Kit	
7	443118	2	Nut, 1/2-13 Hex	
8	444762	5	Locknut, 3/8-16 Center	
9	446142	5	Lockwasher, 3/8-16 Heavy	
10	446154	2	Lockwasher, 1/2 Heavy	
11	162236	1	Clamp, Exhaust	Discard hardware included with clamp, use Items 29 and 30
12	362263	8	Screw, M10-1.25 x 25mm Hex Head	
13	363485	8	Lockwasher, M10 Heavy	
14	363586	6	Screw, M8-1.25 x 20 mm Hex Head	
15	4187920	1	Bracket, Upper Tail Pipe	
16	4136522	1	Flange, Pump Drive	
17	4119888	1	Driveshaft	
	4134587	2	• Cross and Bearing	
	4134583	1	• Joint and Tube Half	Traction Pump Side
	4134584	1	• Joint and Shaft Half	Engine Side
	4134585	1	• Plate and Yoke	Engine Side
	4134586	1	• Clamp and Yoke	Traction Pump Side
18	4179860	1	Tail Pipe	
19	4165560	1	Muffler	
20	4129251	2	Spring, Tail Pipe	
21	4129250	1	Bracket, Lower Tail Pipe	
22	450331	2	Nut, M8-1.25 Hex Grade 8	
23	441614	2	Carriage Bolt, 5/16-18 x 1”	
24	450400	6	Washer, M8	
25	450411	8	Lockwasher, M8	
26	4187660	1	Bracket, Muffler Support	
27	A1103051	2	Screw, M8-1.25 x 25mm Hex Head	
28	3007889	1	Sleeve, Insulating	
29	452006	4	Flat Washer, 5/16	
30	444718	4	Locknut, 5/16-18 Center	
31	362539	4	Nut, M8-1.25 Hex	

> Change from previous revision

16.1 Fuel and Hydraulic Tanks

Serial No. All

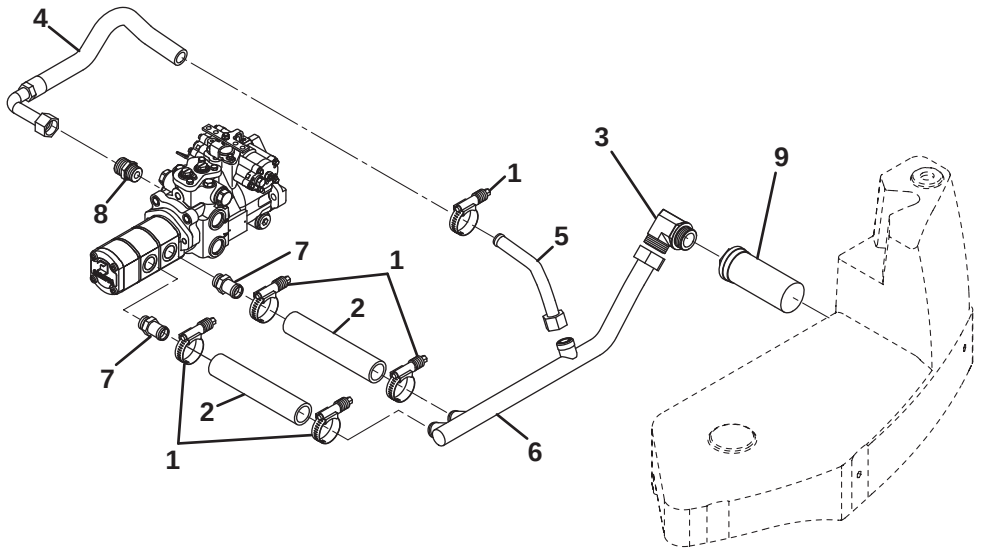


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	132647	1	Valve, Shut Off	
2	3001279	1	Switch, Float	**REFERENCE SW-9, See 41.1**
3	3002397	1	Plug, Magnetic	
	339899	1	• O-Ring	
4	3009204	1	Fuel Tank	
5	3005871	1	Hydraulic Tank	
6	3005872	1	Shell, Tank Cover	
7	3006243	2	Plate, Tank Mounting	
8	3009347	1	Strainer, Fuel Filler	
9	3006332	1	Breather Filter	
10	3006337	1	Fuel Sender	**REFERENCE R-1, See 41.1**
11	5003374	1	• Gasket	
12	4177480	1	Cap, Fuel Tank	
13	554748	1	Fuel Line, 5/16” I.D. Cut to 72 Inches	Tank to Fuel Pump
14	554748	1	Fuel Line, 5/16” I.D. Cut to 8 Inches	Fuel Filter to Engine
15	361117	3	Bushing, Fuel Tank	
16	361748	1	Valve, Overflow	
17	554752	1	Fuel Line, 3/16 I.D. Cut to 70 Inches	Engine to Tank
18	366526	6	Clamp, Hose	
19	403769	14	Screw, 1/4-20 x 1/2” Hex Flange	
20	403910	5	Screw, #10-24 x 1/2” Truss Head	
21	404016	5	Screw, 1/4-20 x 5/8” Truss Head	
22	445794	2	Nut, 1/4-20 Spiralock Flange	
23	445796	3	Nut, 3/8-16 Spiralock Flange	
24	446118	5	Lockwasher, #10 Heavy	
25	400108	2	Screw, 1/4-20 x 3/4” Hex Head	
26	800709	2	Screw, 3/8-16 x 1” Hex Flange	
27	4132489	1	Fuel Pump	**REFERENCE M-2, See 41.1**
28	503626	1	Engine Fuel Filter	Included wih Engine
	557619	1	• Element, Fuel Filter	
29	554748	1	Fuel Line, 5/16” I.D. Cut to 12 Inches	Fuel Pump to Fuel Filter
30	2810702	1	Valve, Inlet	

> Change from previous revision

17.1 Pump Suction Hydraulics

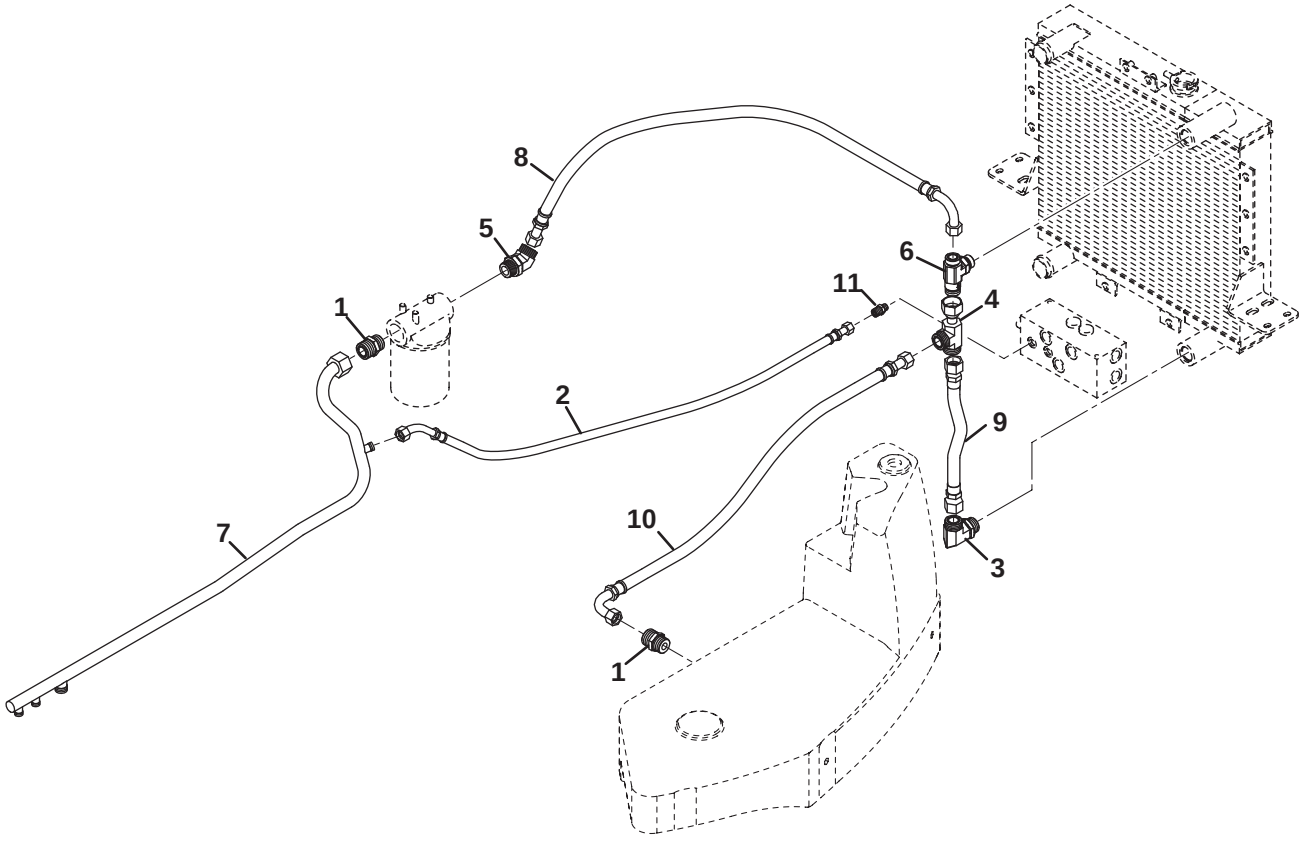
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3008673	5	Clamp, Constant Torque Hose	
2	4148857	2	Hose, Gear Pump Suction	
3	340090	1	Fitting, 24-24 90°	
4	4122538	1	Hose, Charge Pump Suction	
5	4123066	1	Tube, Charge Pump Suction	
6	4130823	1	Tube, Pump Suction	
	339913	1	• O-Ring -16	
7	3001296	2	Adapter, Straight Beaded	
8	339999	1	Fitting, 16-16 Straight	
9	365959	1	Strainer, Tank Mounted	

> Change from previous revision

18.1 Oil Cooler Hydraulics

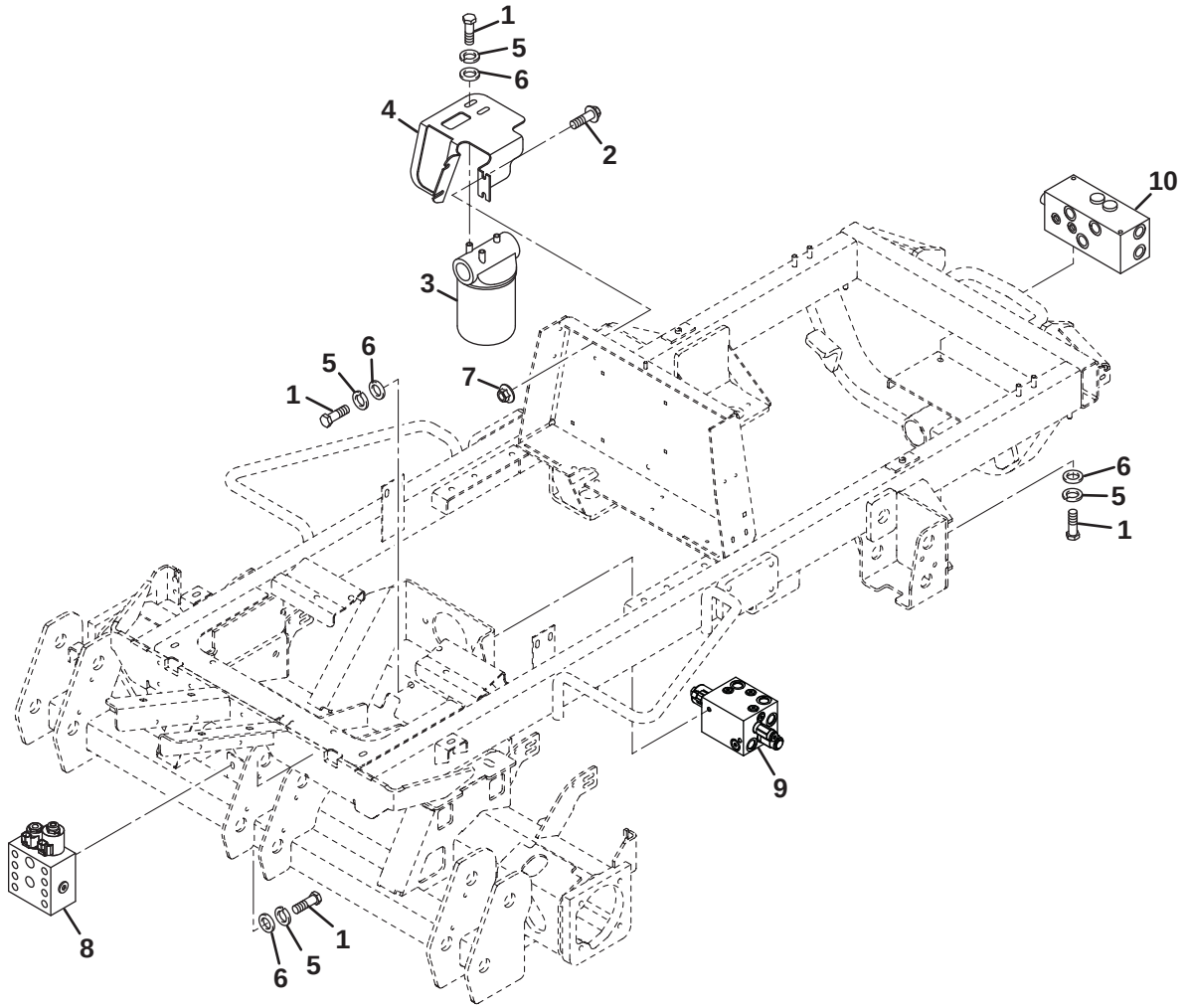


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	339999	2	Fitting, 16-16 Straight	
2	4129037	1	Hose, 4WD Return	
3	340077	1	Fitting, 16-16 90°	
4	340123	1	Fitting, 16-16-16 Swivel Run Tee	
5	340039	1	Fitting, 16-16 45°	
6	4123166	1	Fitting, Check Valve Tee	
7	4128322	1	Tube, Return Hoses to Oil Filter	
	339909	3	• O-Ring -6	
	339911	1	• O-Ring -10	
8	4129042	1	Hose, Filter to Oil Cooler	
9	4129043	1	Hose, Oil Cooler to Tee	
10	4129044	1	Hose, Oil Cooler to Tank	
11	339979	1	Fitting, 6-6 Straight	

> Change from previous revision

19.1 Hydraulic Valves and Filter

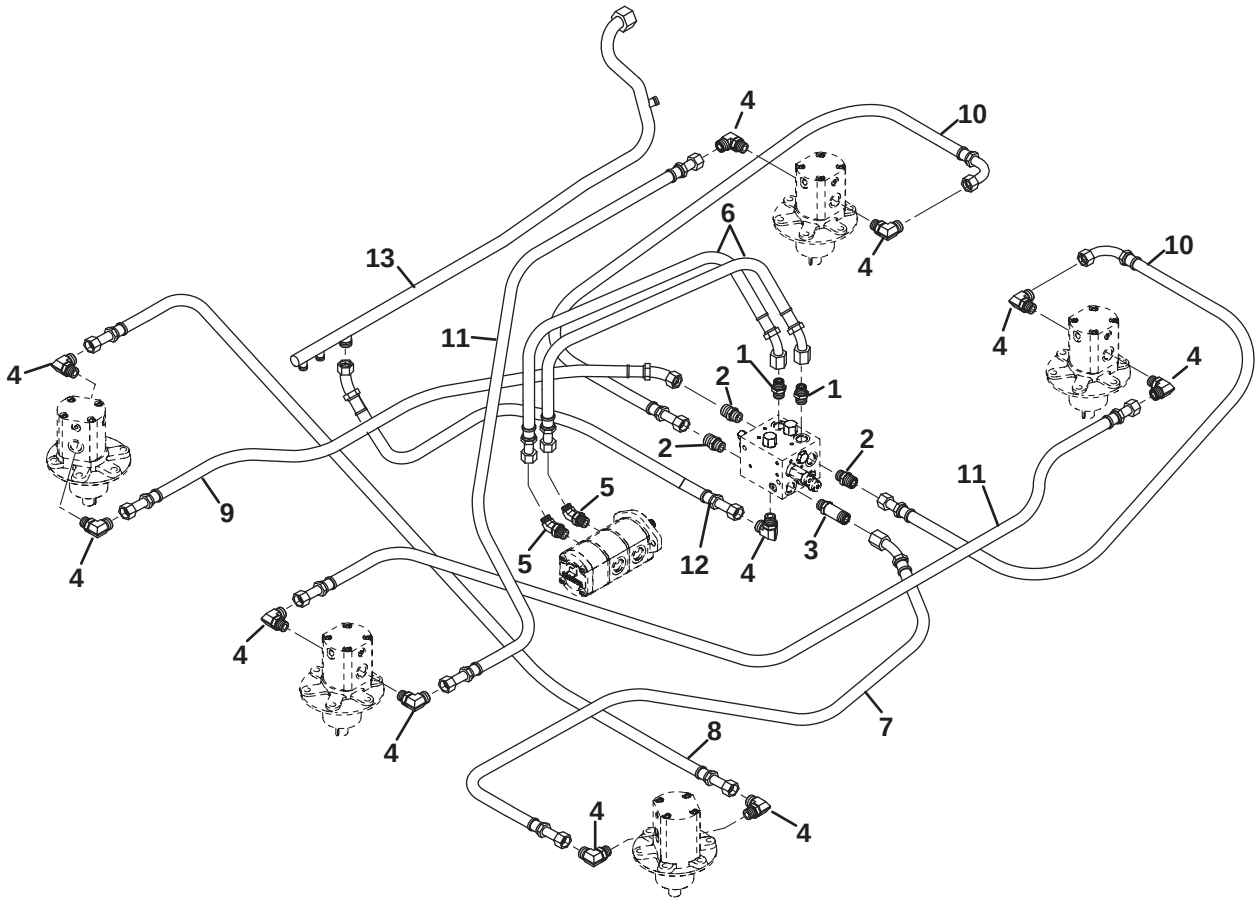
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	400258	8	Screw, 3/8-16 x 3/4” Hex Head	
2	409811	4	Screw, 5/16-18 x 5/8” Thread Cutting	
3	4121554	1	Hydraulic Filter Assembly	
	4121552	1	• Filter Head	
	555771	1	• Filter Element	
	556419	1	• Oil Switch	**REFERENCE SW-1, See 41.1**
	4124755	1	• Visual Indicator	
4	4121852	1	Filter Bracket	
5	446140	8	Lockwasher, 3/8	
6	453011	8	Flat Washer, 3/8	
7	445795	4	Nut, 5/16-18 Spiralock Flange	
8	4129069	1	Lift Valve	See 36.1
H 9	NS	1	Deck Valve	S/N 1651 ~ 1825, See 33.1
9	4217900	1	Deck Valve	S/N 1826 and Up, See 33.2
10	4129071	1	4WD Valve	See 37.1
H	Order 4217900 to replace entire Deck Valve, or service components listed in breakdown. See 33.1			

> Change from previous revision

20.1 Deck Hydraulics

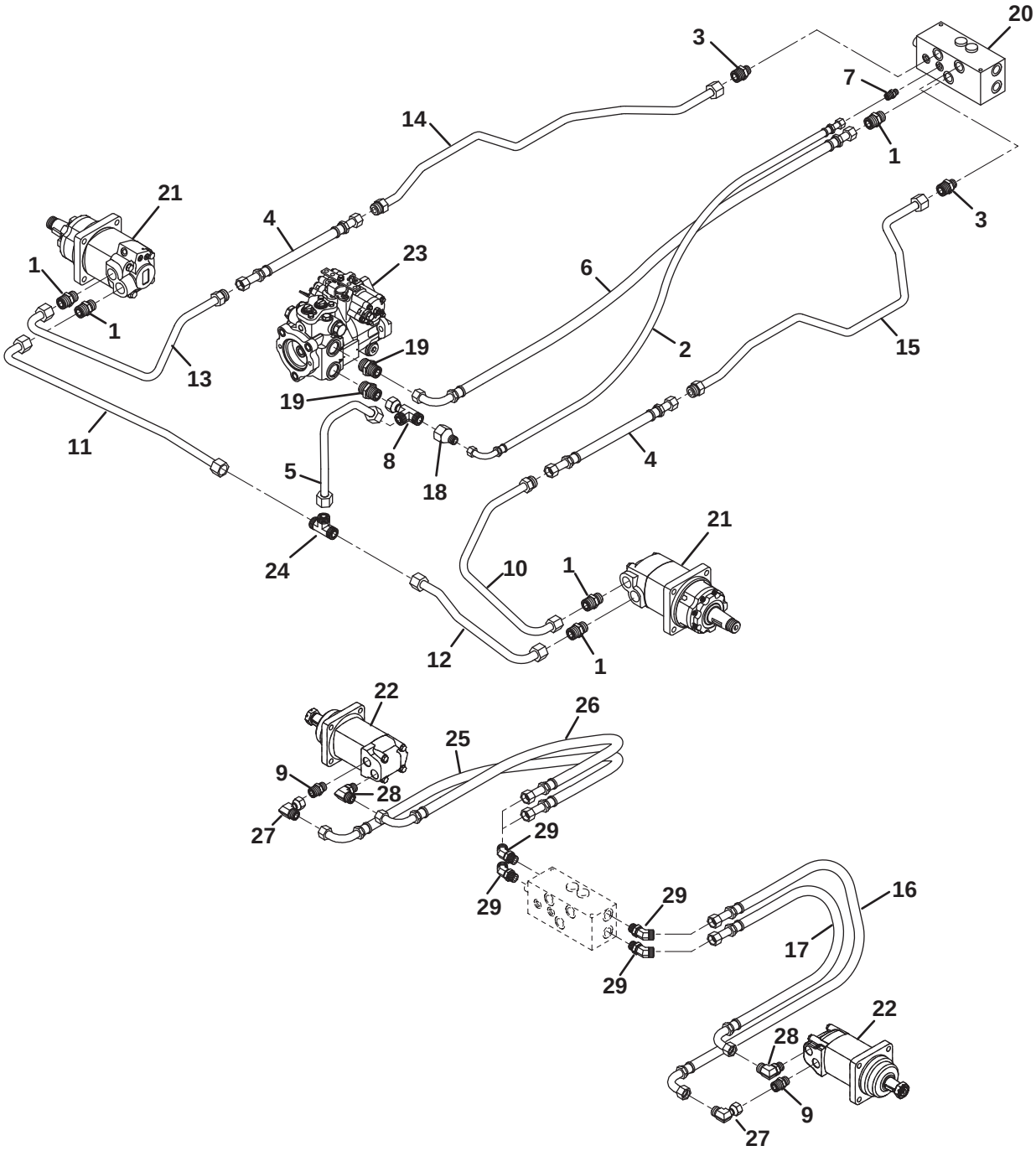


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	339985	2	Fitting, 8-10 Straight	
2	339989	3	Fitting, 10-10 Straight	
3	340009	1	Fitting, 10-10 Straight	
4	340070	11	Fitting, 10-10 90°	
5	340030	2	Fitting, 8-10 45°	
6	4129015	2	Hose, Gear Pump to Deck Valve	
7	4137588	1	Hose, LH Front Motor to Deck Valve	
8	4137382	1	Hose, Front Motor to Front Motor	
9	4137589	1	Hose, RH Front Motor to Deck Valve	
10	4129595	2	Hose, Rear Motor to Deck Valve	
11	4137383	2	Hose, Center Motor to Rear Motor	
12	4129597	1	Hose, Deck Valve to Return Tube	
13	REF	1	Return Tube	See 18.1

> Change from previous revision

21.1 Traction Hydraulics

Serial No. All

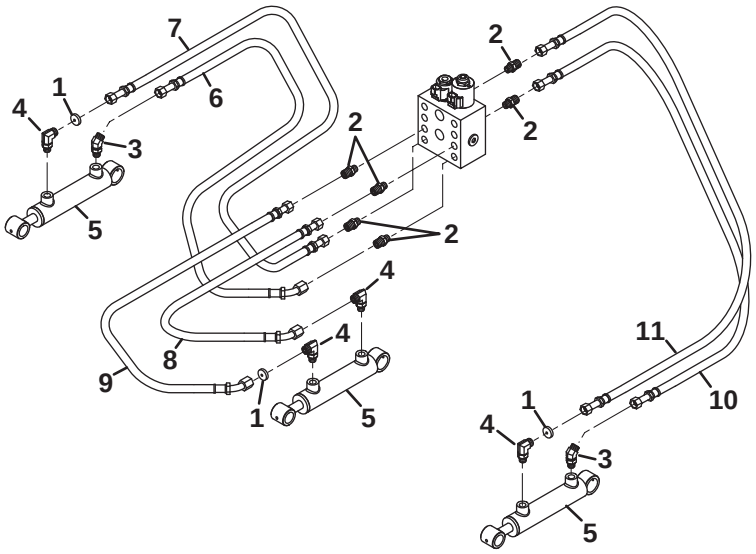


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	339994	5	Adapter, 12-12 Straight Fitting	
2	4129035	1	Hose, 4WD Valve to Traction Pump	4WD Valve Port I
3	339993	2	Adapter, 12-10 Straight Fitting	
4	4128977	2	Hose, Front Tube to Rear Tube	
5	4134921	1	Tube, Drive Return	
6	4129036	1	Hose, 4WD Valve to Traction Pump	4WD Valve Port G
7	339979	1	Adapter, 6-6 Straight Fitting	
8	340122	1	Adapter, 12-12-12 Swivel Run Tee	
9	339989	2	Adapter, 10-10 Straight FItting	
10	4128320	1	Tube, Upper LH Front Wheel Motor	
11	4128318	1	Tube, Lower RH Front Wheel Motor	
12	4128317	1	Tube, Lower LH Front Wheel Motor	
13	4128319	1	Tube, Upper RH Front Wheel Motor	
14	4128324	1	Tube, Rear RH 4WD Tube	4WD Valve Port A
15	4128325	1	Tube, Rear LH 4WD Tube	4WD Valve Port C
	4137625	1	Hose Bundle, Left Rear Motor	Includes drain hose, See 24.1
16	4137607	1	• Hose, 4WD Valve to Wheel Motor	4WD Valve Port D, Motor Port B
17	4137608	1	• Hose, 4WD Valve to Wheel Motor	4WD Valve Port E, Motor Port A
18	4128967	1	Adapter, 12-6 Reducer	
19	339996	2	Adapter, 12-16 Straight Fitting	
20	REF	1	4WD Valve	See 19.1
21	REF	2	Front Wheel Motor	See 8.1
22	REF	2	Rear Wheel Motor	See 10.1
23	REF	1	Pump, Traction	See 15.1
24	340338	1	Adapter, 12-12-12 Union Tee	
	4137623	1	Hose Bundle, Right Rear Motor	Includes drain hose, See 24.1
25	4137607	1	• Hose, 4WD Valve to Wheel Motor	4WD Valve Port F, Motor Port B
26	4137608	1	• Hose, 4WD Valve to Wheel Motor	4WD Valve Port B, Motor Port A
27	340377	2	Adapter, 10-10 90° Swivel Fitting	
28	340070	2	Adapter, 10-10 90° Fitting	
29	340033	4	Adapter, 10-10 45° Fitting	

> Change from previous revision

22.1 Front Lift Hydraulics

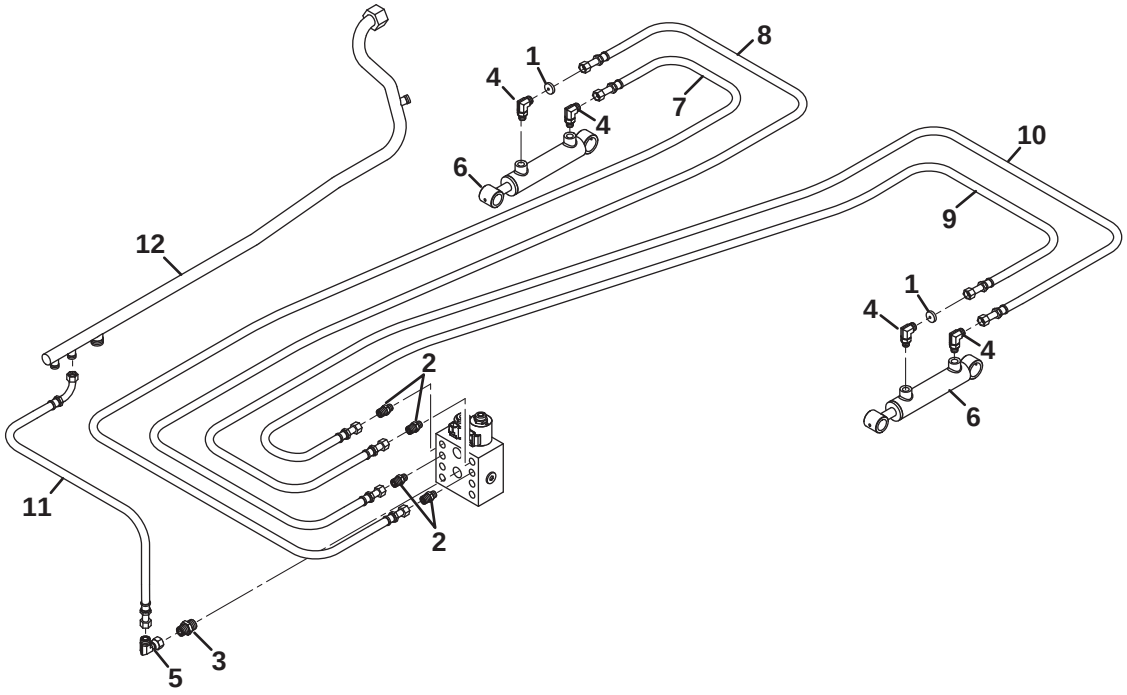
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3000953	3	Disk, Orifice	
2	339979	6	Fitting, 6-6 Straight	
3	340026	2	Fitting, 6-6 45°	
4	340061	4	Fitting, 6-6 90°	
5	REF	3	Lift Cylinder	See 29.1
6	4137562	1	Hose, Lift Valve to RH Front Cylinder	Lift Valve Port #10, Base Port
7	4129018	1	Hose, Lift Valve to RH Front Cylinder	Lift Valve Port #4, Rod Port
8	4129019	1	Hose, Lift Valve to Center Cylinder	Lift Valve Port #9, Base Port
9	4129020	1	Hose, Lift Valve to Center Cylinder	Lift Valve Port #3, Rod Port
10	4129021	1	Hose, Lift Valve to LH Front Cylinder	Lift Valve Port #6, Base Port
11	4129022	1	Hose, Lift Valve to LH Front Cylinder	Lift Valve Port #5, Rod Port

> Change from previous revision

23.1 Rear Lift Hydraulics

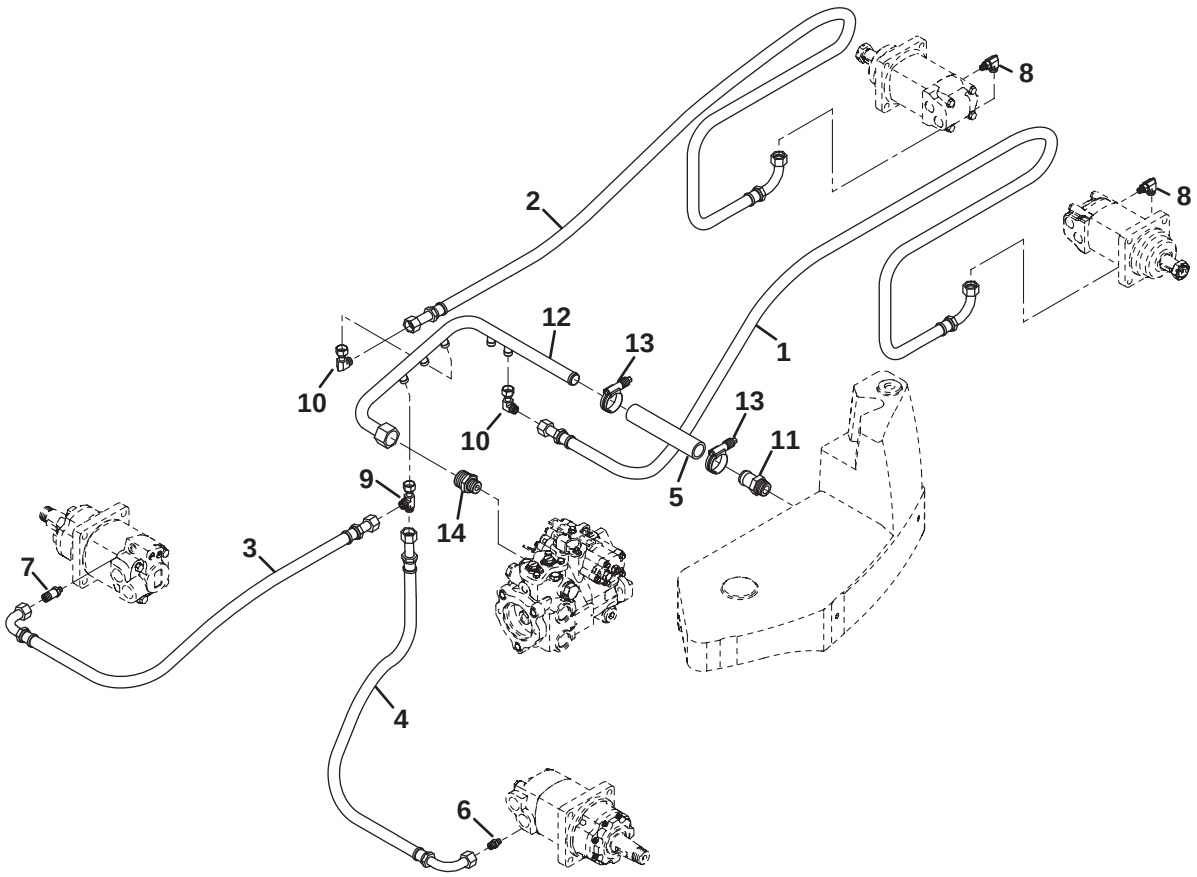


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3000953	2	Disk, Orifice	
2	339979	4	Fitting, 6-6 Straight	
3	339985	1	Fitting, 8-10 Straight	
4	340061	4	Fitting, 6-6 90°	
5	340376	1	Fitting, 8-8 90° Swivel	
6	REF	2	Lift Cylinder	See 30.1
7	4129023	1	Hose, Lift Valve to RH Rear Cylinder	Lift Valve Port #8, Base Port
8	4129024	1	Hose, Lift Valve to RH Rear Cylinder	Lift Valve Port #2, Rod Port
9	4129026	1	Hose, Lift Valve to LH Rear Cylinder	Lift Valve Port #1, Rod Port
10	4129026	1	Hose, Lift Valve to LH Rear Cylinder	Lift Valve Port #7, Base Port
11	4129027	1	Hose, Lift Valve to Return Tube	Lift Valve Port T
12	REF	1	Return Tube	See 18.1

> Change from previous revision

24.1 Wheel Motor Case Drains

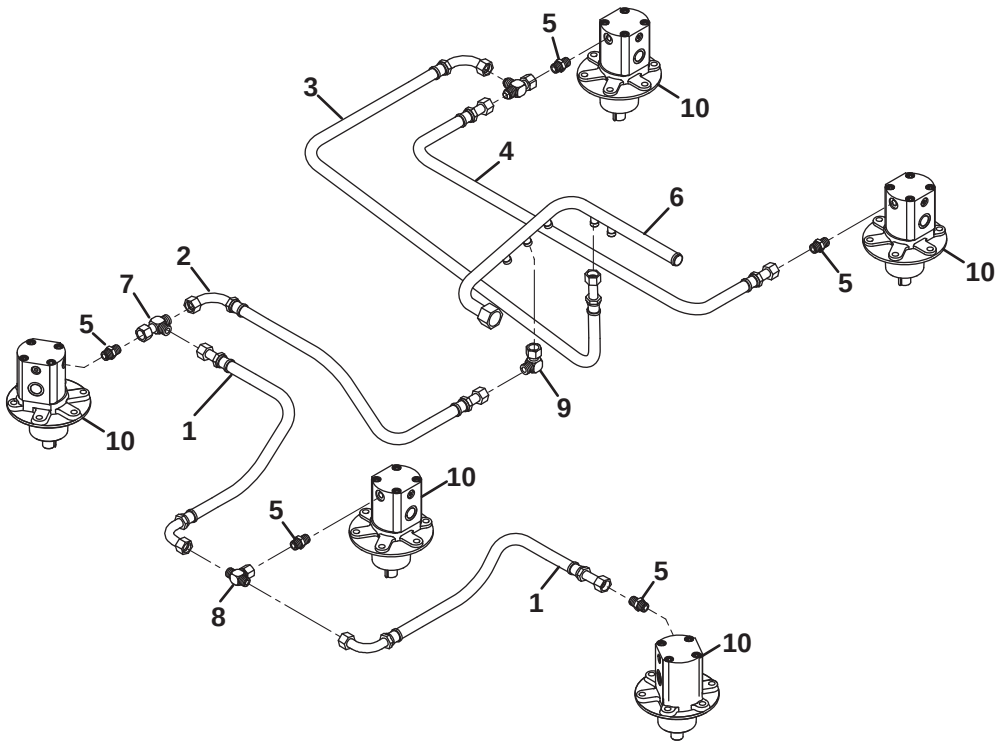
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4137634	1	Hose, LH Rear Motor to Drain Tube	Included in hose bundle 4137625
2	4137624	1	Hose, RH Rear Motor to Drain Tube	Included in hose bundle 4137623
3	4129040	1	Hose, RH Front Motor to Drain Tube	
4	4129041	1	Hose, LH Front Motor to Drain Tube	
5	4148857	1	Hose, Drain Tube	
6	339972	1	Fitting, 4-4 Staight	
7	340007	1	Fitting, 6-4 Straight	
8	340059	2	Fitting, 6-4 90°	
9	340119	1	Fitting, 6-6-6 Swivel Run Tee	
10	340375	2	Fitting, 6-6 90° Swivel	
11	361689	1	Fitting, Straight Barb	
12	4113601	1	Tube, Drain	
	339909	5	• O-Ring -6	
13	3008673	2	Clamp, Constant Torque Hose	
14	339998	1	Fitting, 16-12 Straight	

> Change from previous revision

25.1 Deck Motor Case Drain

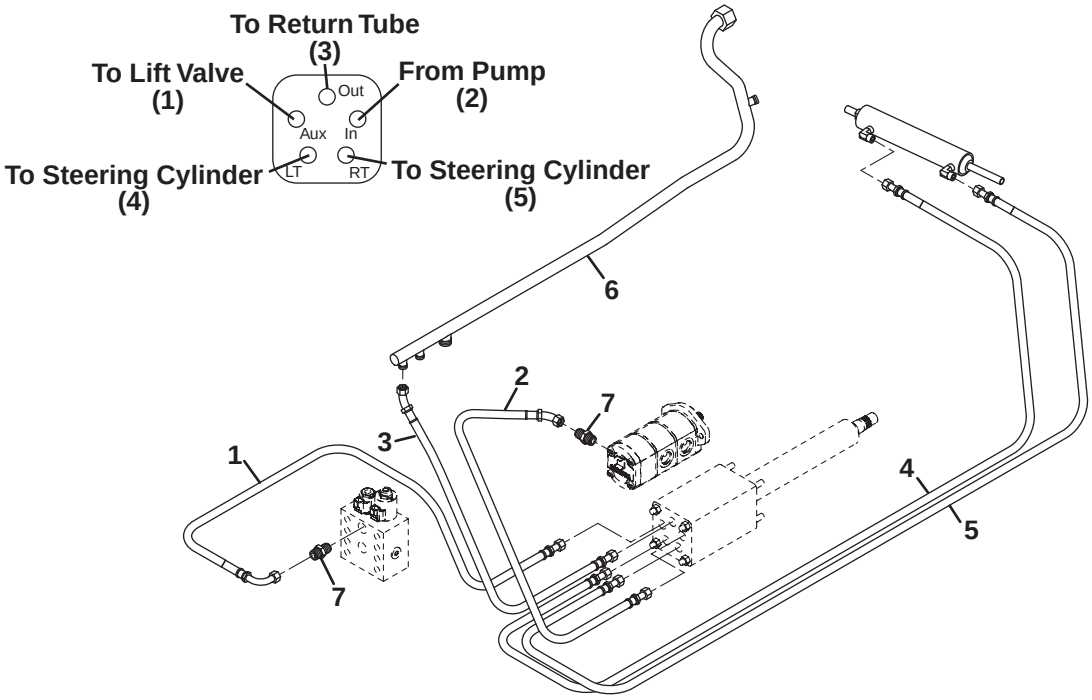


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4137561	2	Hose, Front Motor to Front Motor	
2	4137562	1	Hose, Front Motors to Drain Tube	
3	4129600	1	Hose, Rear Motors to Drain Tube	
4	4129603	1	Hose, Rear Motor to Rear Motor	
5	339977	5	Fitting, 6-4 Staight	
6	REF	1	Tube, Drain	See 24.1
7	340119	2	Fitting, 6-6-6 Swivel Run Tee	
8	340143	1	Fitting, 6-6-6 Swivel Branch Tee	
9	340375	1	Fitting, 6-6 90° Swivel	
10	REF	5	Deck Motor	See 31.1

> Change from previous revision

26.1 Steering Hydraulics

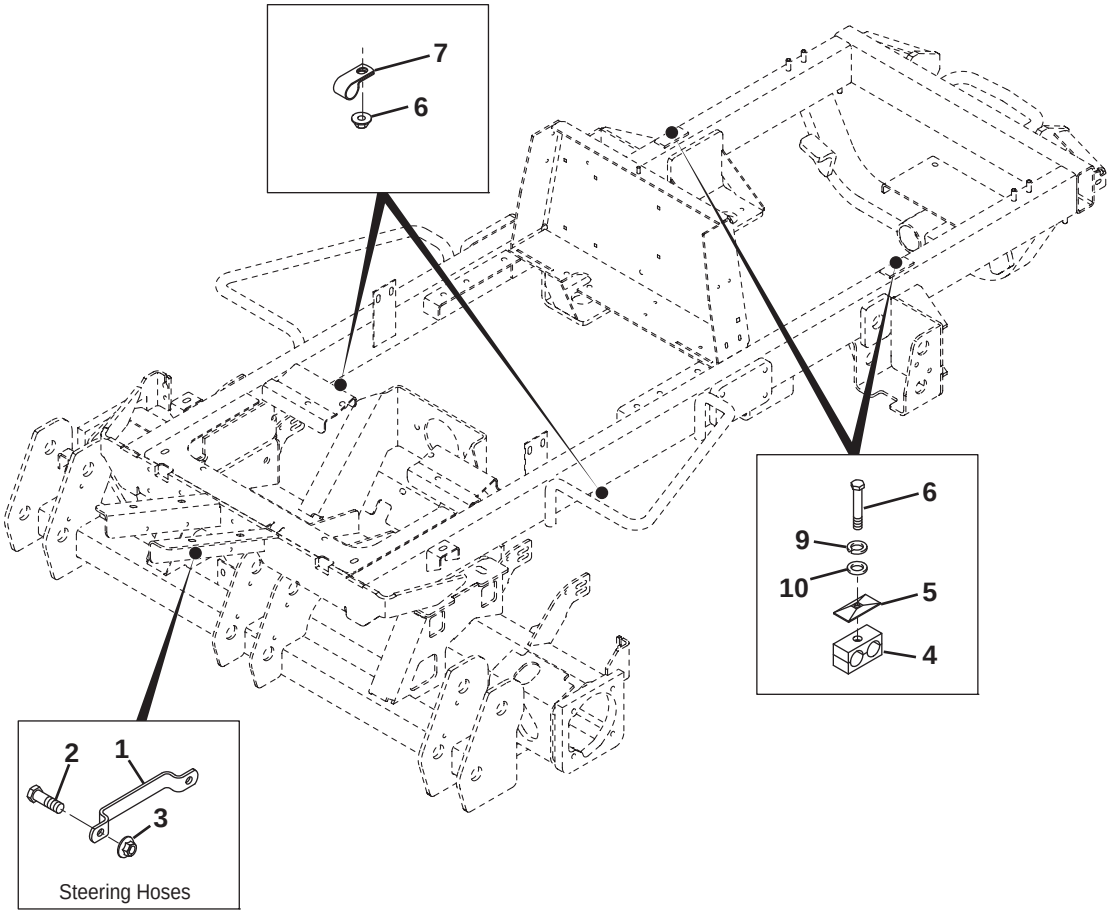
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4129028	1	Hose, Lift Valve to Steering Valve	Lift Valve Port T, Steering Valve Aux
2	4129029	1	Hose, Gear Pump to Steering Valve	Steering Valve IN
3	4129030	1	Hose, Steering Valve to Return Tube	Steering Valve Out
4	4129031	1	Hose, Steering Valve to Cylinder	Steering Valve LH, Base Port
5	4129032	1	Hose, Steering Valve to Cylinder	Steering Valve RH, Rod Port
6	REF	1	Return Tube	
7	339985	2	Fitting, 8-10 Straight	

> Change from previous revision

27.1 Hydraulic Clamps

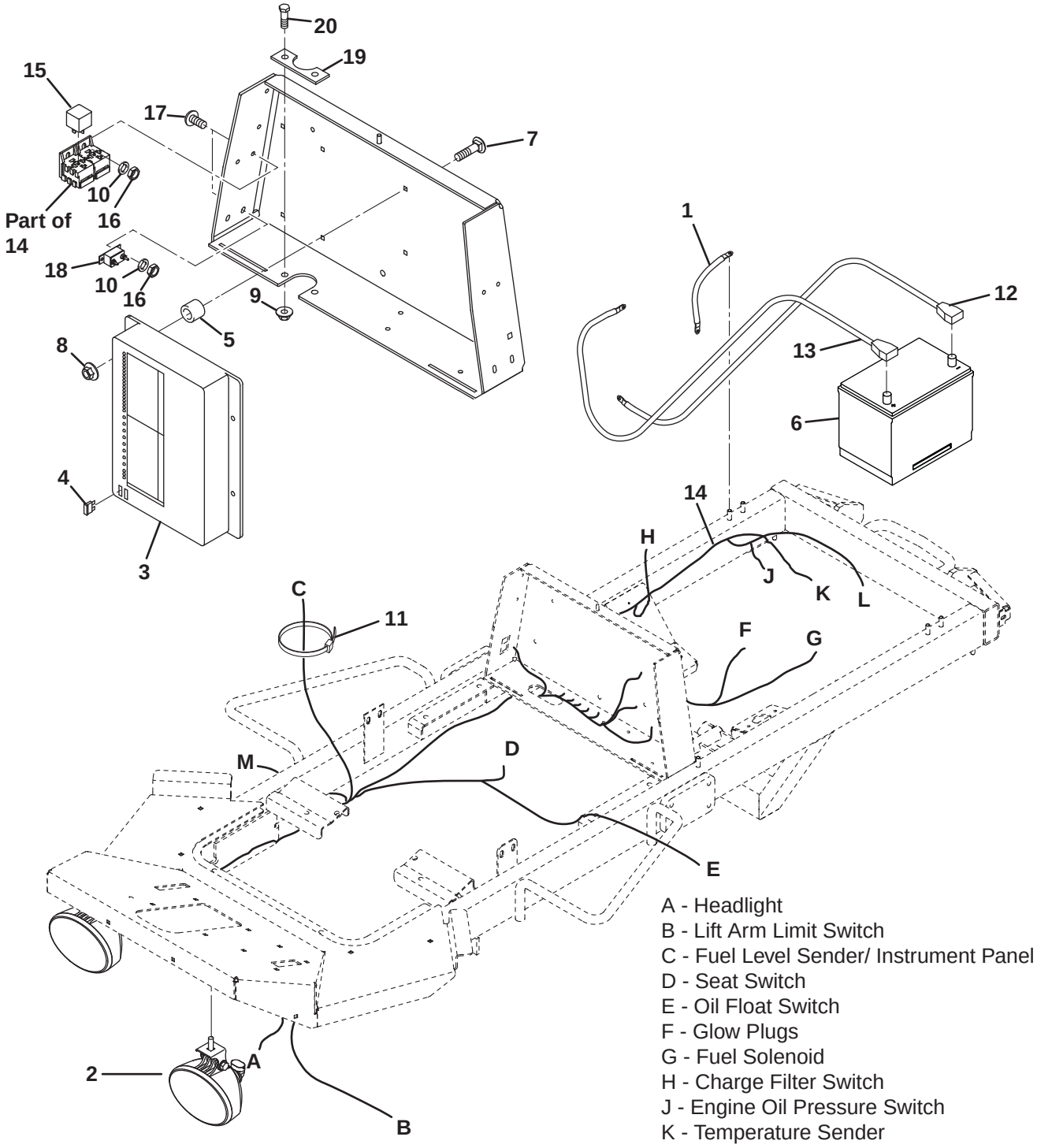


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004541	1	Bracket, Hose Retaining	
2	403770	2	Screw, 5/16-18 x 3/4” Flange Head	
3	445795	2	Nut, 5/16-18 Spiralock Flange	
4	4131862	2	Clamp, Two Hose	
5	4131864	2	Plate, Clamp	
6	400196	2	Screw, 5/16-18 x 2” Hex Head	
7	364190	2	Clamp, 1-1/2” Dia. Hose	
8	445796	2	Nut, 3/8-16 Spiralock Flange	
9	446136	2	Lockwasher, 5/16 Heavy	
10	452006	2	Flat Washer, 5/16	

> Change from previous revision

28.1 Electrical Harness

Serial No. All



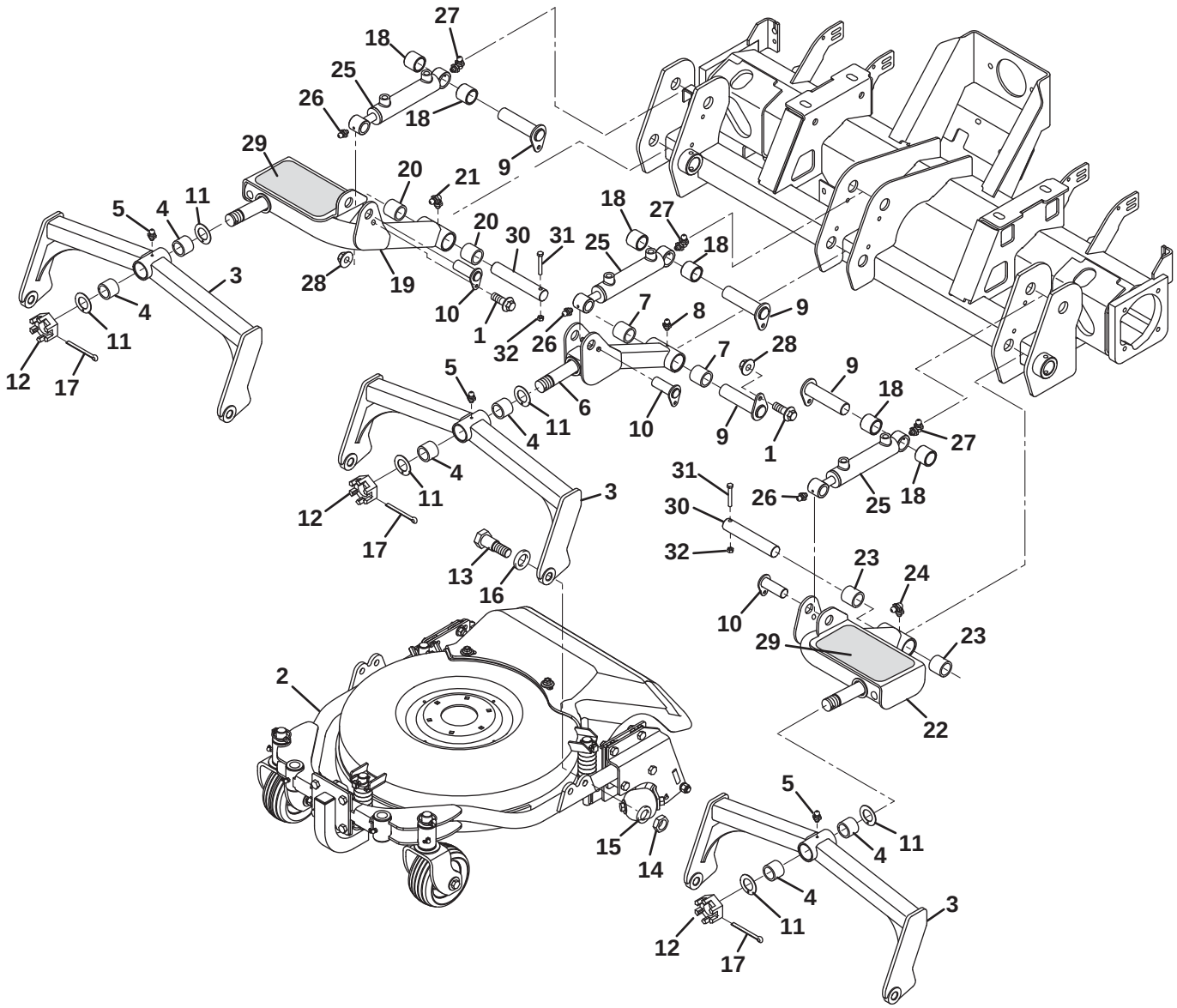
A - Headlight
B - Lift Arm Limit Switch
C - Fuel Level Sender/ Instrument Panel
D - Seat Switch
E - Oil Float Switch
F - Glow Plugs
G - Fuel Solenoid
H - Charge Filter Switch
J - Engine Oil Pressure Switch
K - Temperature Sender
L - 4WD Valve (4WD Only)
M - Reel Valve

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2810424	1	Cable, Engine Ground	Engine Mount to Frame
2	4122840	2	Headlight	**REFERENCE L-1 & L-2, See 41.1**
	4123183	1	• Bulb	
3	4122841	1	Controller	**REFERENCE U-6, See 41.1**
4	5003282	2	• Fuse, 20 Amp	**REFERENCE F-1 & F-2, See 41.1**
5	367631	4	Spacer	
6	N/S	1	Battery	**REFERENCE B-1, See 41.1**
7	441668	4	Carriage Bolt, 1/4-20 x 1-1/4”	
8	444708	4	Locknut, 1/4-20 Center	
9	445796	2	Nut, 3/8-16 Spiralock Flange	
10	444310	4	Nut, #10-24 Hex	
11	473142	1	Cable Tie	
12	2810213	1	Cable, Negative Battery	Battery to Muffler Bracket
13	3007777	1	Cable, Positive Battery	Battery to Starter
14	4128262	1	Body Wire Harness	
15	4193880	2	• Relay-SPDT With Diode	**REFERENCE K-1 & K-2, See 41.1**
16	446118	4	Lockwasher, #10	
17	403910	4	Screw, #10-24 x 1/2” Truss Head	
18	361439	1	Circuit Breaker, 12V 50A	**REFERENCE CB-1, See 41.1**
19	3009251	1	Tab, Harness	
20	400258	2	Screw, 3/8-16 x 3/4” Hex Head	

> Change from previous revision

29.1 Front Lift Arms

Serial No. All

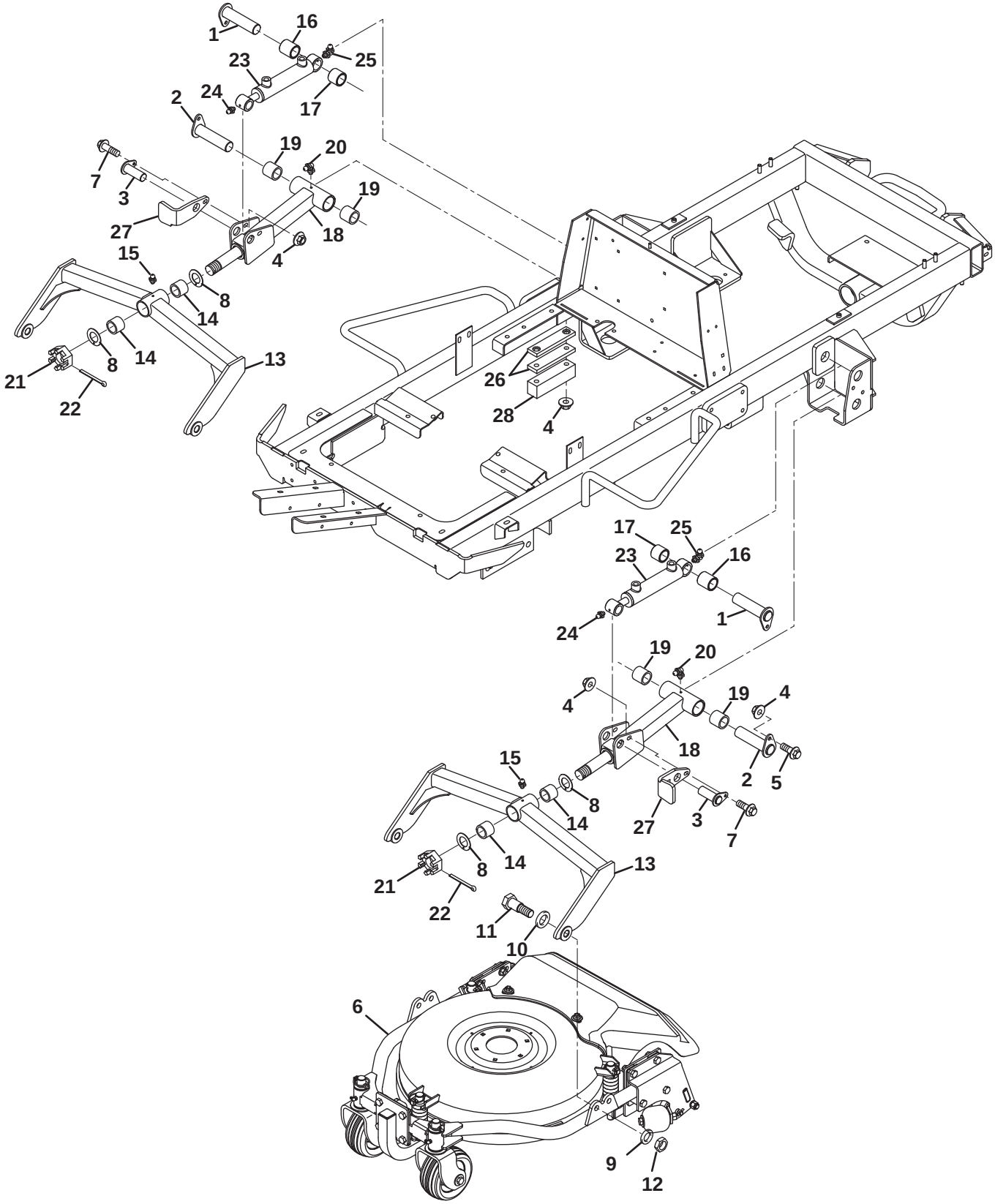


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	548905	7	Screw, 3/8-16 x 1” Serrated Flange	
2	REF	3	Deck Assembly	See 31.1
3	4125547	3	Front Deck Pivot	
4	4127480	2	• Bushing	
5	471214	1	• Straight Grease Fitting	
6	4125919	1	Center Lift Arm	
7	3010489	2	• Bushing	
8	471214	1	• Straight Grease Fitting	
9	4126447	6	Pin, Arm	
10	4126450	3	Pin, Cylinder	
11	4127192	6	Plastic Washer	
12	4127556	3	Nut, 1-1/4-7 Slotted Hex	
13	4131849	6	Shoulder Bolt, 3/4 x 5/8-11 x 2-1/8”	
14	444752	6	Locknut, 5/8-11 Center	
15	452016	6	Flat Washer, 5/8	
16	310452	6	Flat Washer	
17	460068	3	Cotter Pin, 1/4 x 2”	
18	4131963	6	Spacer, Cylinder	
19	4171884	1	Right Front Lift Arm	
20	3010489	2	• Bushing	
21	471221	1	• 90° Grease Fitting	
22	4171883	1	Left Front Lift Arm	
23	3010489	2	• Bushing	
24	471221	1	• 90° Grease Fitting	
25	4137128	3	Cylinder, Lift	
	4137138	1	• Seal Kit	
26	471214	3	Straight Grease Fitting	
27	471221	3	90° Grease Fitting	
28	445783	7	Nut, 3/8-16 Whizlock Flange	
29	4134575	2	Pad, Step	
30	4181006	2	Pin, Arm	
31	400198	2	Screw, 5/16-18 x 2-1/4”	
32	444718	2	Locknut, 5/16-18 Center	

> Change from previous revision

30.1 Rear Lift Arms

Serial No. All

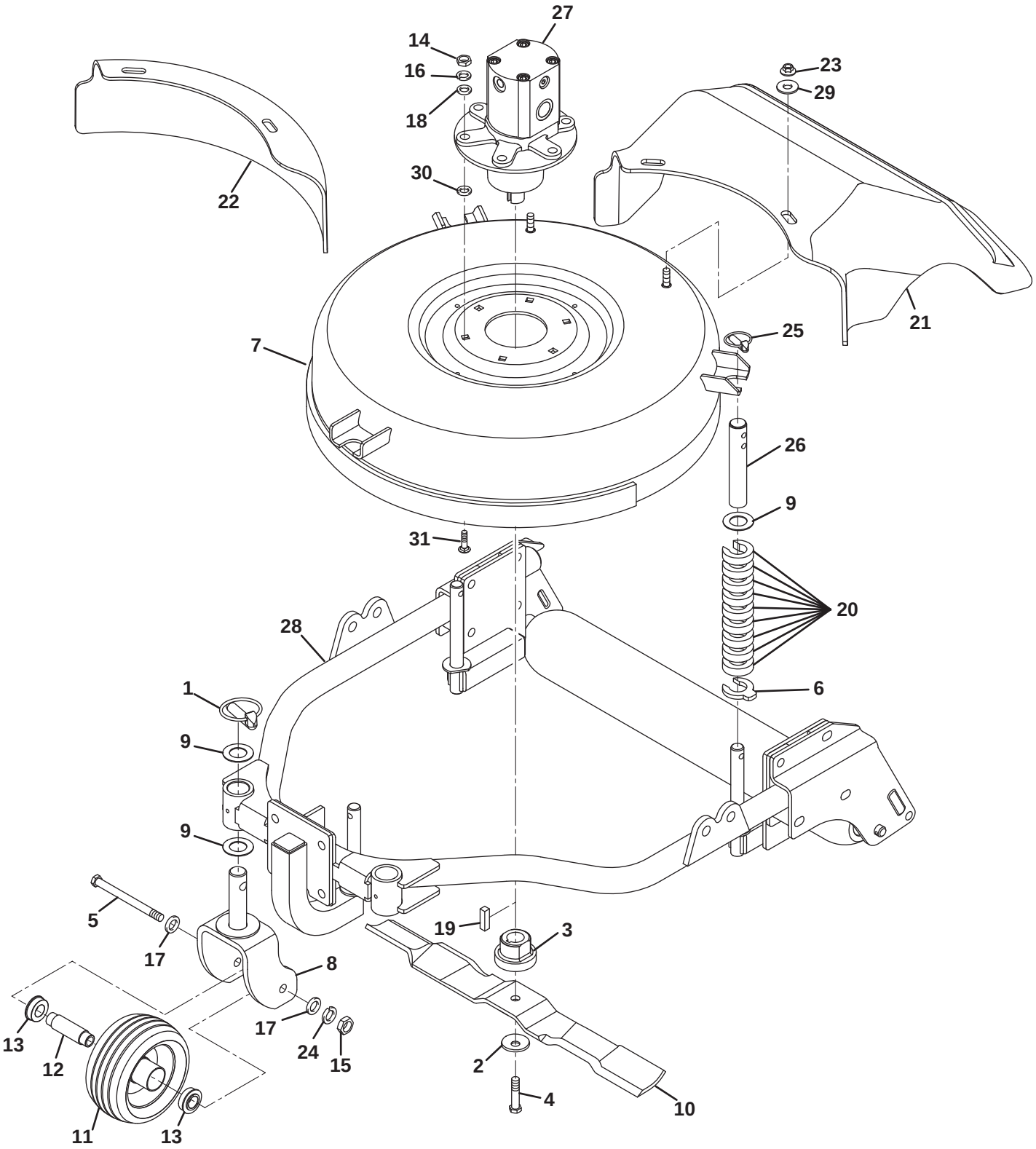


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4131422	2	Pin, Rear Cylinder	
2	4131420	2	Pin, Rear Lift Arm	
3	4126450	2	Pin, Cylinder	
4	445783	10	Nut, 3/8-16 Whizlock Flange	
5	548905	4	Screw, 3/8-16 x 1” Serrated Flange	
6	REF	2	Deck Assembly	See 31.1
7	548907	2	Screw, 3/8-16 x 1/1/4” Ser Flange	
8	4127192	4	Washer, Plastic	
9	452016	4	Flat Washer, 5/8”	
10	310452	4	Flat Washer, 3/4”	
11	4131849	4	Shoulder Bolt, 3/4 x 5/8-11 x 2-1/8	
12	444752	4	Locknut, 5/8-11 Center	
13	4125180	2	Rear Deck Pivot	
14	4127480	2	• Bushing	
15	471214	1	• Straight Grease Fitting	
16	4131965	2	Spacer, Cylinder	
17	4131964	2	Spacer, Cylinder	
18	4132846	2	Rear Lift Arm	
19	3010489	2	• Bushing	
20	471221	1	• 90° Grease Fitting	
21	4127556	2	Nut, 1-1/4-7 Slotted Hex	
22	460076	2	Cotter Pin, 1/4 x 3”	
23	4137128	2	Cylinder, Lift	
	4137138	1	• Seal Kit	
24	471214	2	Straight Grease Fitting	
25	471221	2	90° Grease Fitting	
26	4134626	AR	Pad, Deck Stop	Add pads as required to prevent deck contacting engine oil pan.
27	4136022	2	Deck Stop	
28	4137716	AR	Deck Stop	Add as required to prevent deck contacting engine oil pan.

> Change from previous revision

31.1 Deck Housing and Caster Wheels

Serial No. All

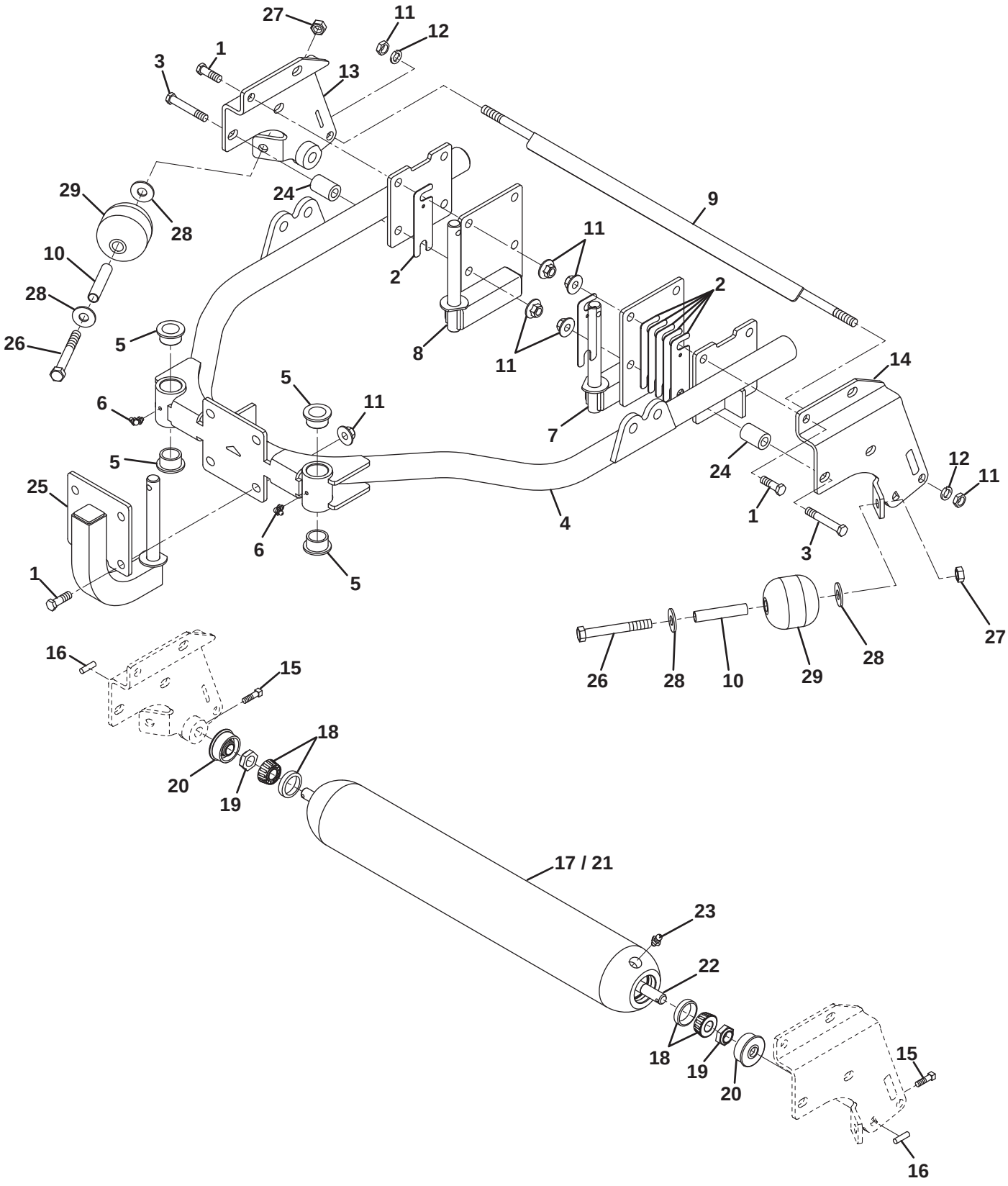


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3004894	2	Pin, 7/16 x 1-3/4” Snap Ring	
2	3007764	1	Washer, Blade	
3	3008388	1	Adapter, Blade	
4	400410	1	Screw, 1/2-13 x 1-3/4” Hex Head	
5	450062	2	Screw, M12-1.75 x 130 mm Hex Head	
6	4117807	3	Spacer	
7	4163107	1	Deck Housing	
8	4124066	2	Caster Wheel Yoke	
9	4124076	4	Flat Washer, 1”	
10	4163106	1	Blade, 22-3/8” Combination	Standard Blade
10	4137186	1	Blade, 22-3/8” High Lift	Optional High Lift Blade
10	4124087	1	Blade, 22-3/8” Low Lift	Optional Low Lift Blade
11	4173922	2	Caster Wheel, 6-1/4 x 3	
12	4174960	1	• Spacer, Wheel	
13	4173923	2	• Ball Bearing, Flange	
14	443110	6	Nut, 3/8-16 Hex	
15	450326	2	Nut, M12-1.75 Hex	
16	446142	6	Lockwasher, 3/8 Heavy	
17	450402	4	Flat Washer, M12	
18	453011	6	Flat Washer, 3/8	
19	557523	1	Key, 1/4 Square x 1”	
20	PJH1054	27	Spacer, Cutting Height	
21	4163124	1	Chute, Rear Discharge	
22	4163125	1	Cover, Mulching	
23	445783	3	Nut, 3/8-16 Whizlock Flange	
24	450424	2	Lockwasher, M12 Heavy	
25	365948	3	Pin, 1/4 x1-3/4” Snap Ring	
26	4133007	3	Sleeve, Cutting Height	
27	4175100	1	Motor, Deck	
	4136829	1	• Seal Kit	
	4177360	1	• Check Valve	
28	REF	1	Deck Frame	See 32.1
29	452010	3	Washer, 7/16 x 1-1/4”	
30	4139787	6	Nut, Push On	
31	440124	6	Carriage Bolt, 3/8-16 x 1-3/4”	

> Change from previous revision

32.1 Deck Frame

Serial No. All



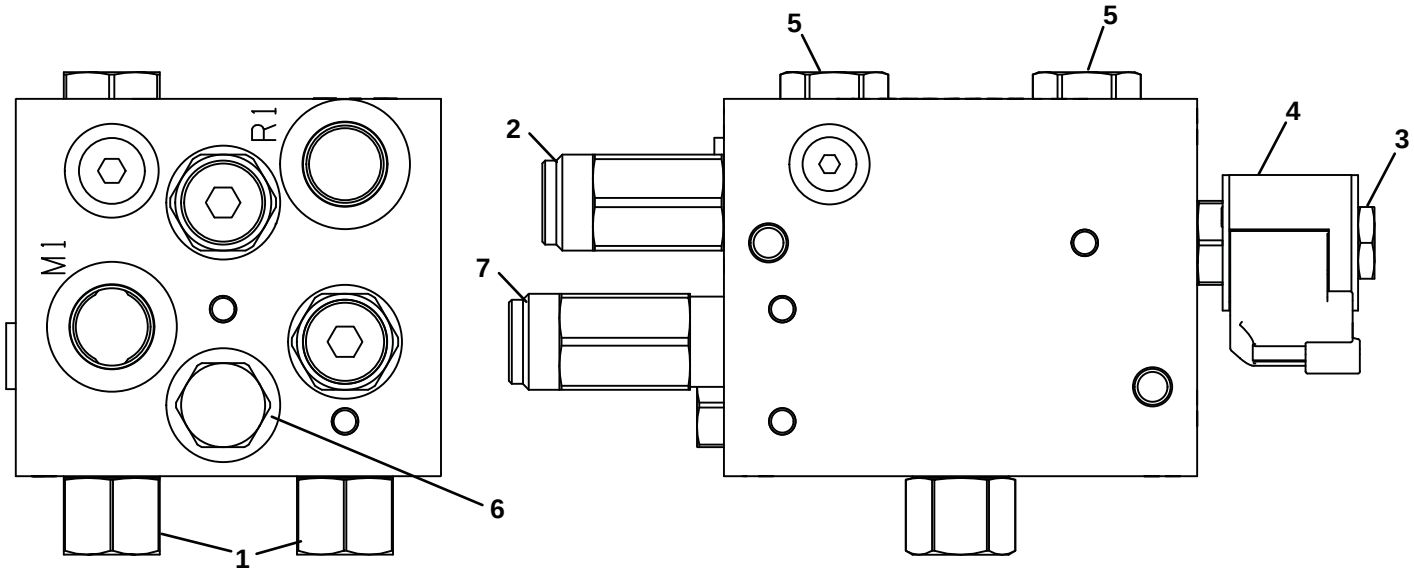
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	452411	8	Screw, M12-1.75 x 40 mm Hex Head	
2	4161960	12	Spacer, Deck HOC Bracket	
3	452415	4	Screw, M12-1.75 x 80 mm Hex Head	
4	4137665	1	Deck Frame	Front Decks
4	4137674	1	Deck Frame	Rear Decks
5	4127478	4	• Flanged Bushing	
6	471221	AR	Grease Fitting, 90°	
7	4124423	1	LH Rear Cutting Height Bracket	
8	4124425	1	RH Rear Cutting Height Bracket	
9	4183948	1	Scraper, Roller	
10	4137534	2	Sleeve, Roller	
11	452438	14	Nut, M12-1.75 Hex Flange	
12	450413	2	Lockwasher, M12	
13	4163089	1	RH Roller Bracket	
14	4163087	1	LH Roller Bracket	
15	412017	2	Screw, 5/16-18 x 3/4” Square Head	
16	316938	2	Roll Pin, 3/16 x 1”	
17	4163121	1	Roller	
18	503378	2	• Bearing Cup and Cone	
19	367029	1	• Locknut, 3/4-16 Hex Jam	
20	3010210	2	• Seal	
21	4163122	1	• Tube, Roller	
22	4124015	1	• Shaft, Roller	
23	471214	2	• Grease Fitting, Straight	
24	4124129	4	Spacer	
25	4124395	1	Front Cutting Height Bracket	
26	450059	2	Screw, M12-1.75 x 100 mm Hex Head	
27	450380	2	Locknut, M12-1.75	
28	450402	2	Flat Washer, M12	
29	2198153	2	Roller, 3”	

> Change from previous revision

33.1 Deck Valve

Serial No. 68098 - 1651 ~ 1825

Part Number H

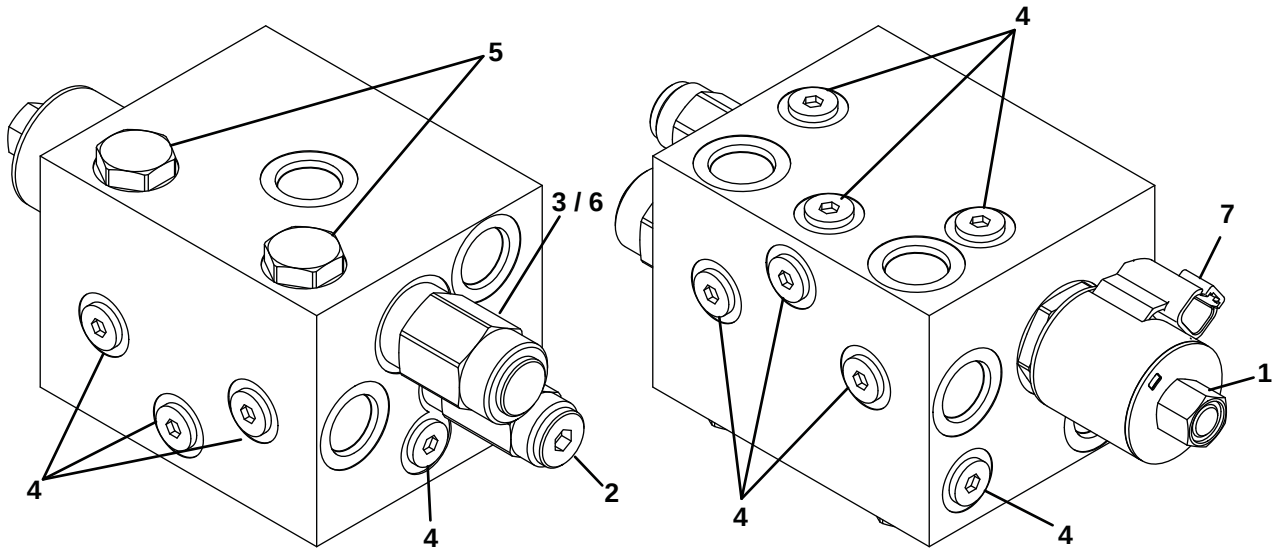


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4175181	2	Vented Logic Element Valve	
	5003579	1	• Seal Kit	
2	4175183	1	Relief Valve, 2600 psi	
	5003578	1	• Seal Kit	
3	4175184	1	Solenoid Valve	
	5003578	1	• Seal Kit	
4	4134532	2	Coil	**Reference K-7, See 41.1**
5	4175180	2	Check Valve	
	5003579	1	• Seal Kit	
6	4175182	1	Load Shuttle Valve	
	4134543	1	Seal Kit	
7	4194584	1	Relief Valve, 600 psi	
	5003579	1	• Seal Kit	
H	Order 4217900 to replace entire Deck Valve, or service components listed in breakdown. See 33.2			

> Change from previous revision

33.2 Deck Valve

Part Number 4217900



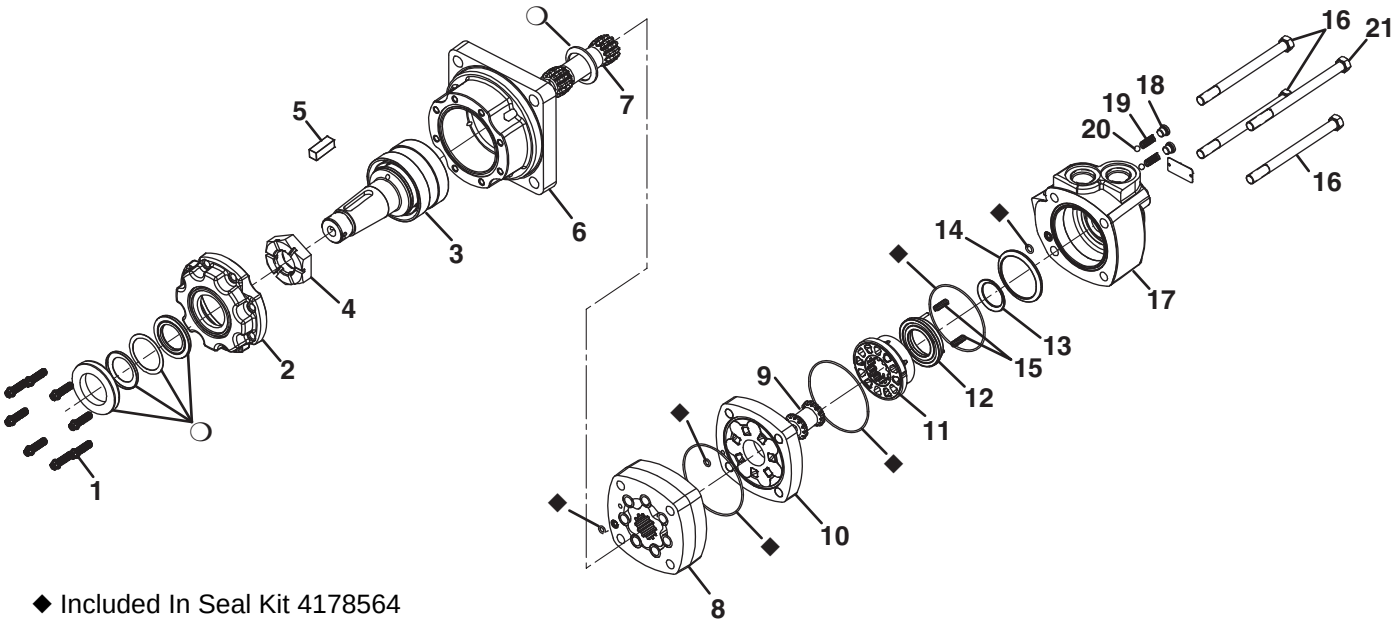
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4223600	1	Solenoid Valve	
	4223640	1	• Seal Kit	
2	4223620	1	Relief Valve, 2600 psi	
	5003579	1	• Seal Kit	
3	5002912	1	Relief Valve, 630 psi	
	5003554	1	• Seal Kit	
4	3010199	8	Plug, -6 ORB	
5	5000049	2	Check Valve	
	5003579	1	• Seal Kit	
6	4223621	1	Piston, Pilot	
7	4134530	1	Coil, Solenoid Valve	**Reference K-7, See 41.1**

> Change from previous revision

34.1 Front Wheel Motor

Serial No. All

Part Number 4203160



◆ Included In Seal Kit 4178564
❍ Included In Seal Kit 4200921

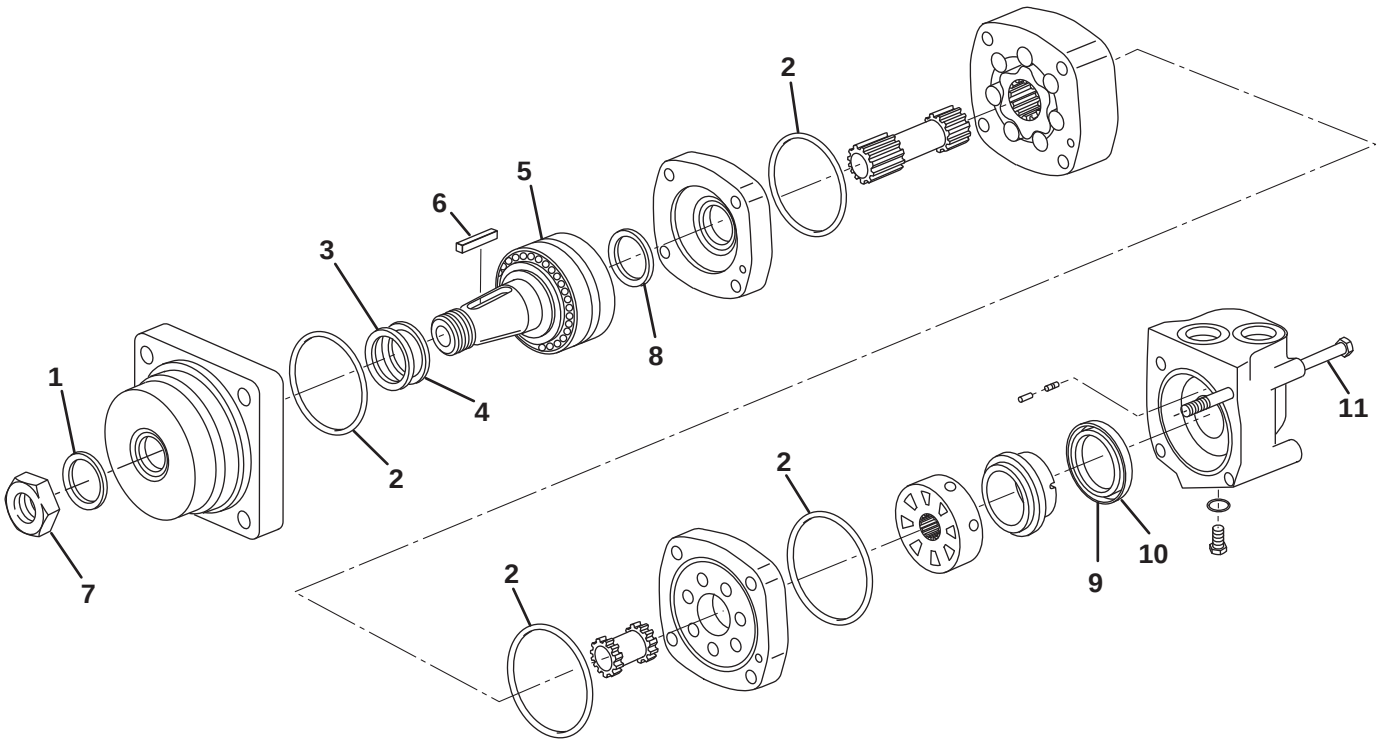
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	558066	8	Screw, Torx	
2	N/S	1	Front Retainer	
3	558063	1	Shaft and Bearing Kit	
4	557624	1	Nut, Hex	
5	557623	1	Key	
6	558064	1	Bearing Housing	
7	4134516	1	Drive	
8	4134517	1	Geroler	
9	557632	1	Drive, Valve	
10	557631	1	Plate, Valve	
11	557633	1	Valve	
12	557637	1	Balance Ring and Pins	
◆ 13	557634	1	Seal, Inner Face	
◆ 14	557635	1	Seal, Outer Face	
15	557636	2	Spring	
16	4134520	3	Bolt, 5-3/4”	
17	5003591	1	Housing, Valve	
18	557639	2	Check Plug Assembly	
19	557642	2	Spring	
20	557640	2	Ball, Steel	
21	4134521	1	Bolt	

> Change from previous revision

Serial No. All

35.1 Rear Wheel Motor

Part Number 4118255



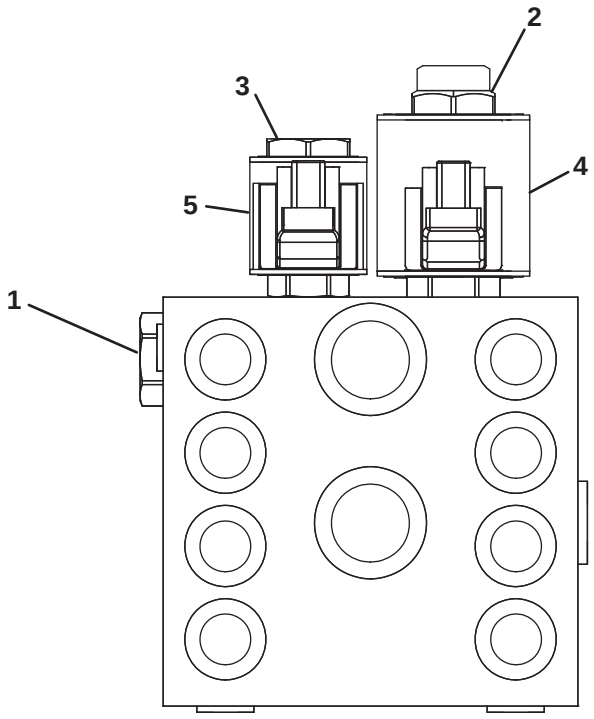
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	A	1	Seal Exclusion	
2	A	4	Seal, 3” I.D.	
3	A	1	Back Up Ring	
4	A	1	Shaft Seal	
5	4134525	1	Shaft and Bearing Kit	
6	554780	1	Key	
7	554779	1	Hex Nut	
8	A	1	Shaft Face Seal	
9	A	1	Inner Face Seal	
10	A	1	Outer Face Seal	
11	4134526	4	Bolt	
	4134527	1	Seal Kit	Includes Items Marked A

> Change from previous revision

36.1 Lift Valve

Serial No. All

Part Number 4129069

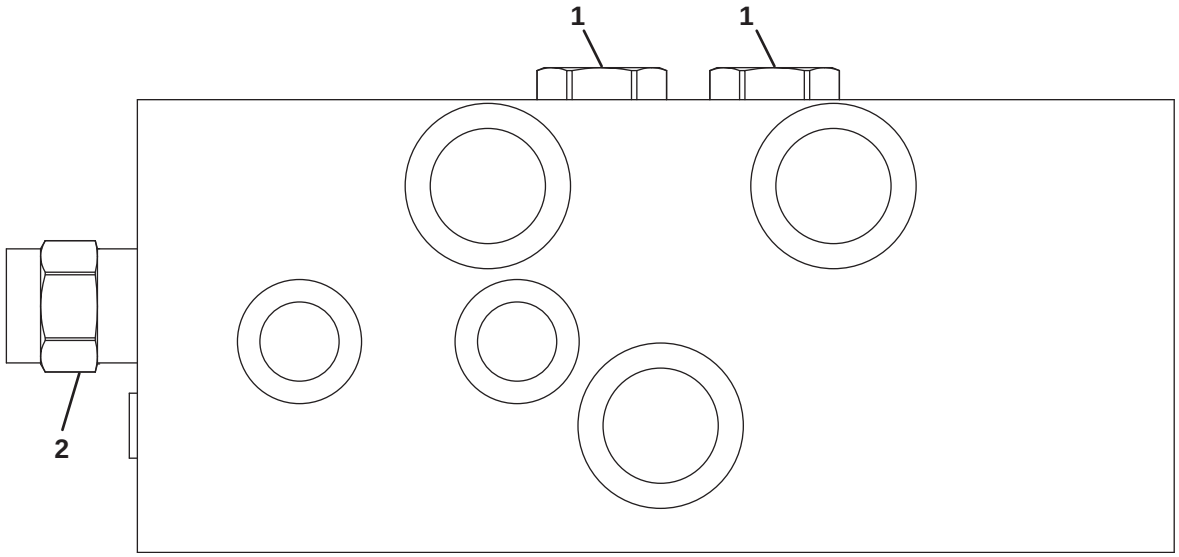


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4134528	1	Check Valve	
	5003579	1	• Seal Kit	
2	4134529	1	Solenoid Valve	
	5003579	1	• Seal Kit	
3	4136067	1	Solenoid Valve	
	5003578	4	• Seal Kit	
4	4134530	1	Coil	**REFERENCE K-5, See 41.1**
5	4142009	1	Coil	**REFERENCE K-6, See 41.1**

> Change from previous revision

37.1 4WD Valve

Part Number 4129071



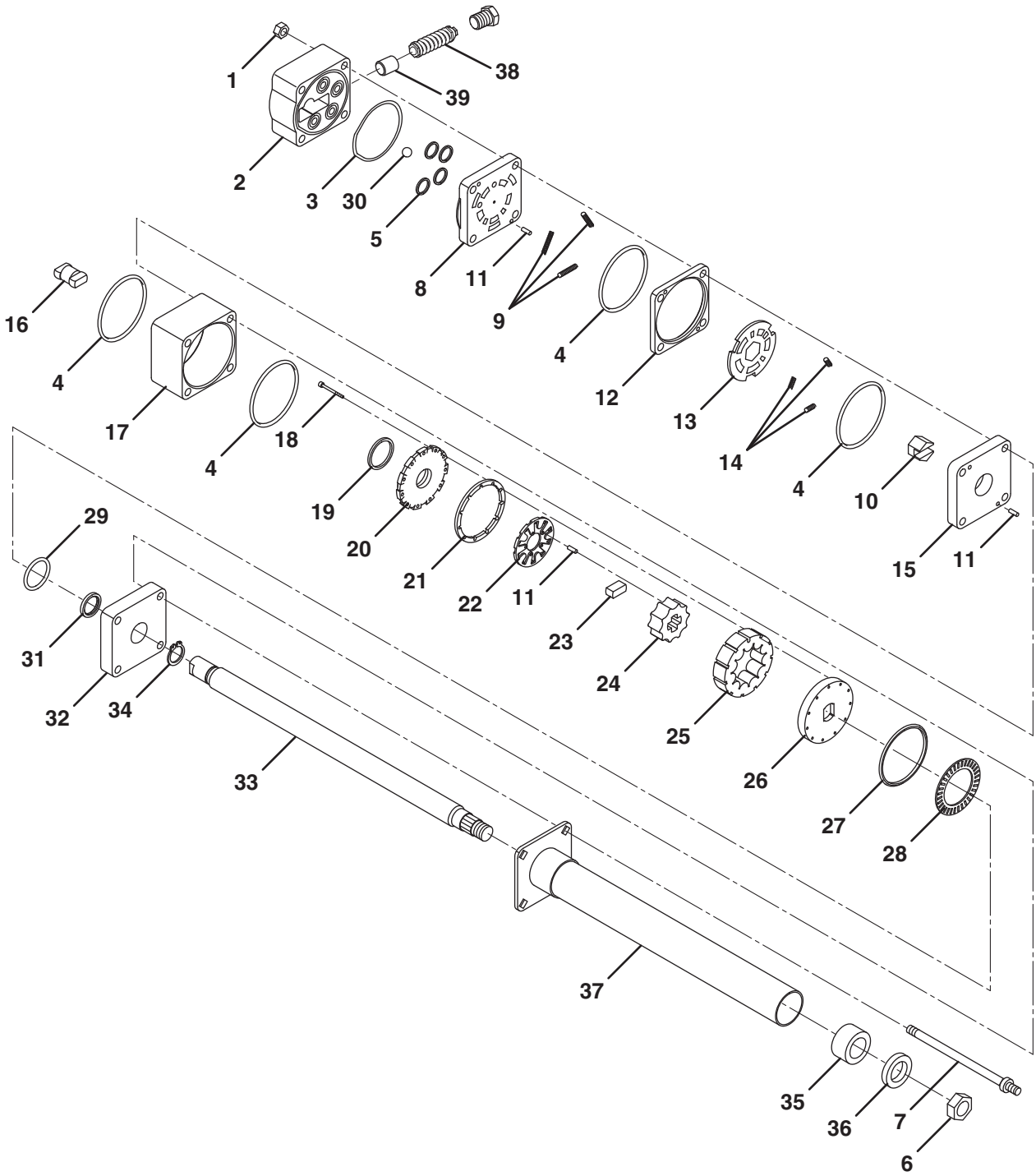
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4134541	2	Check Valve	
	5003579	1	• Seal Kit	
2	4134535	1	Pilot Operated Internal Vent Valve	
	5003579	1	• Seal Kit	

> Change from previous revision

Serial No. All

38.1 Steering Valve

Part Number 4138567



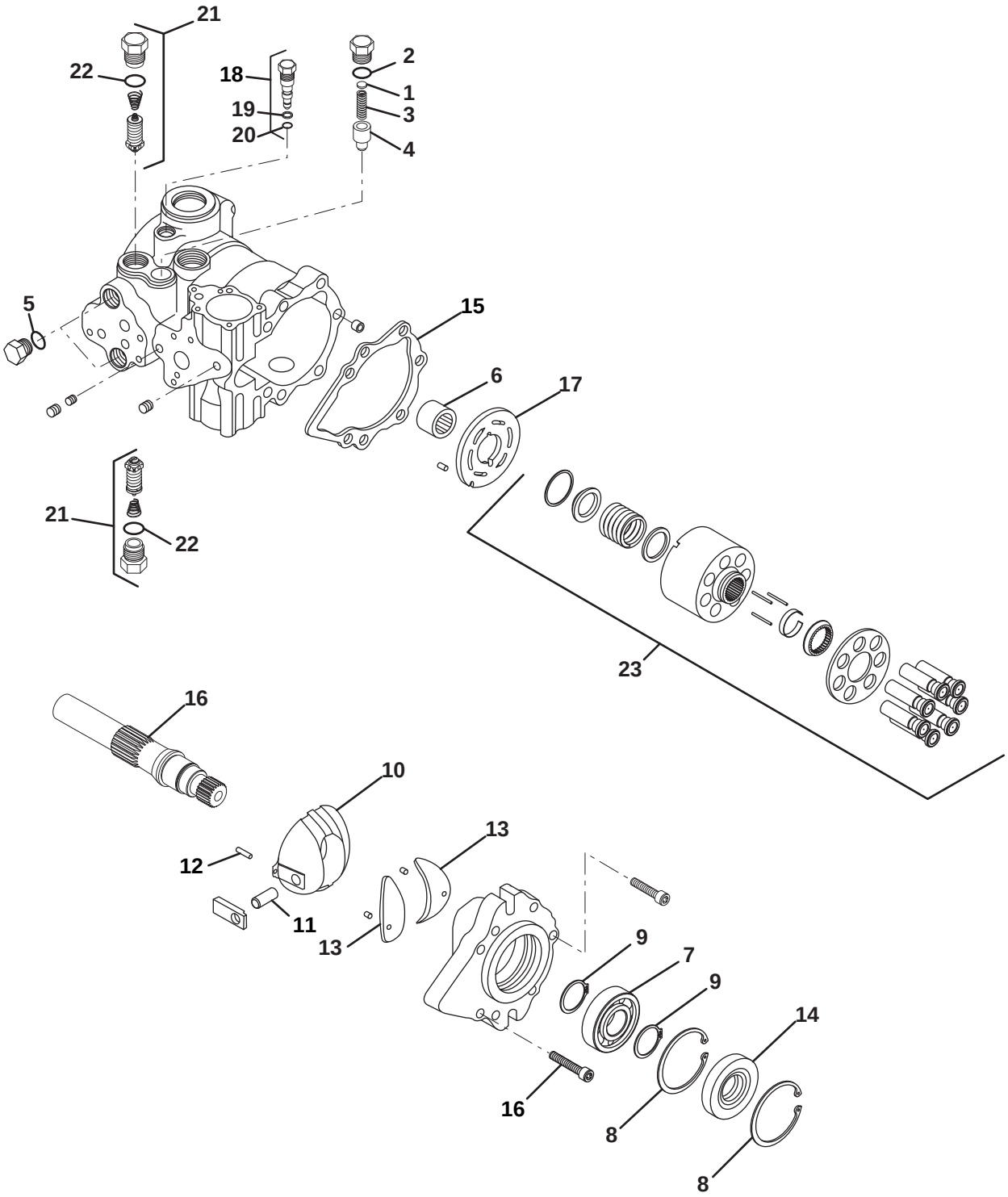
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	443108	4	Locknut, 5/16-18 Center	
2	N/S	1	Port Cover	
3	C	1	Seal, O-Ring	
4	C	4	Seal, O-Ring	
5	C	4	Seal, O-Ring	
6	443828	1	Nut, 5/8-18 Hex Jam	
7	N/S	4	Special Bolt	
8	N/S	1	Port Manifold	
9	B	3	Spring, Port Side	
10	N/S	1	Hex Drive	
11	A and E	9	Needle Roller	
12	503398	1	Valve Ring	
13	503398	1	Valve Plate	
14	B	3	Spring, Shaft Side	
15	N/S	1	Isolation Manifold	
16	N/S	1	Drive Link	
17	N/S	1	Metering Ring	
18	A	11	Screw, Socket Head	
19	C	1	Seal, Commutator	
20	A	1	Commutator Cover	
21	A	1	Commutator Ring	
22	A	1	Commutator	
23	A	1	Spacer	
24	A	1	Rotor	
25	A	1	Stator	
26	A	1	Drive Plate	
27	554855	1	Spacer	
28	554856	1	Thrust Bearing	
29	C	1	Face Seal	
30	N/S	1	Ball, 9/32”	
31	554857	1	Seal, Spacer	
32	N/S	1	Upper Cover Plate	
33	D	1	Shaft	
34	D	1	Retaining Ring	
35	D	1	Bushing	
36	D	1	Seal	
37	D	1	Jacket	
38	4139094	1	Relief Valve Cartridge	
39	557734	1	Dampening Cap	
			Service Kits	
A	5003220	1	Metering Assembly Kit	
B	502924	1	Spring Kit	
C	557738	1	Seal Kit	
D	5003219	1	Jacket Tube Kit	
E	502925	1	Needle Roller Kit	

> Change from previous revision

39.1 Traction Pump (Front Half)

Serial No. All

Part Number 4118252



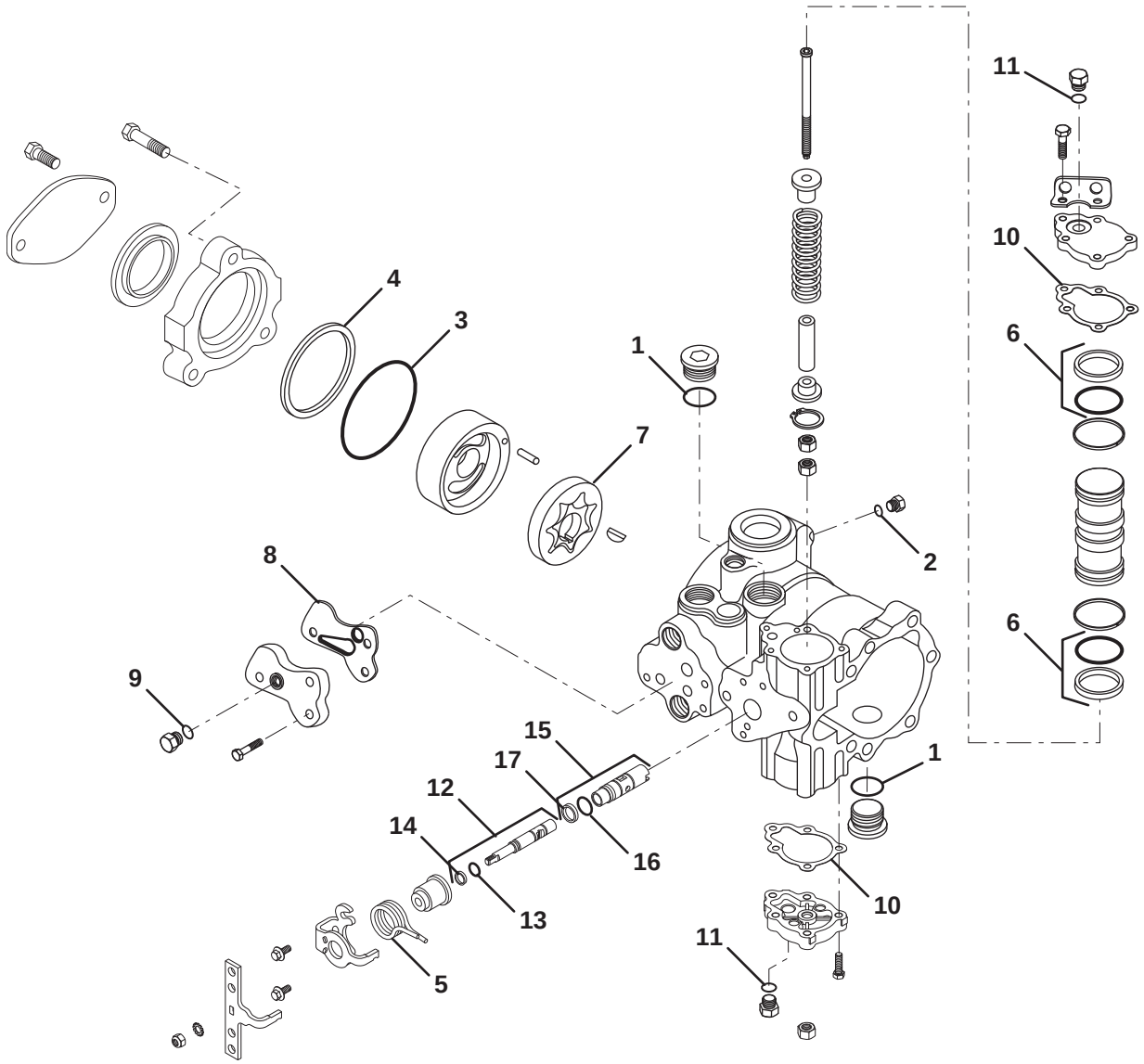
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4134588	1	Shim Kit	
● 2	N/S	1	O-Ring	
3	4134589	1	Charge Relief Spring	
4	4134590	1	Charge Relief Valve	
5	4134591	2	O-Ring	
6	4134592	1	Needle Bearing	
7	4134594	1	Roller Bearing	
8	4134595	2	Retaining Ring	
9	4134596	2	Ring	
10	4134597	1	Variable Swashplate	
11	4134606	1	• Pin	
12	4134607	1	• Pin	
13	4134608	2	Journal Bearing	
● 14	5003433	1	Shaft Seal	
● 15	NS	1	Front Cover Gasket	
16	4134609	1	Pump Shaft	
17	4134610	1	Valve Plate	
18	4134612	1	Bypass Valve	
● 19	N/S	1	• Backup Ring	
● 20	N/S	1	• O-Ring	
21	5003434	2	Relief Valve	
22	4134613	1	• O-Ring	
23	4134614	1	Cylinder Block Kit	
●	5003034	1	Seal Kit	Includes all Items marked ●

> Change from previous revision

40.1 Traction Pump (Rear Half)

Serial No. All

Part Number 4118252 (Cont)

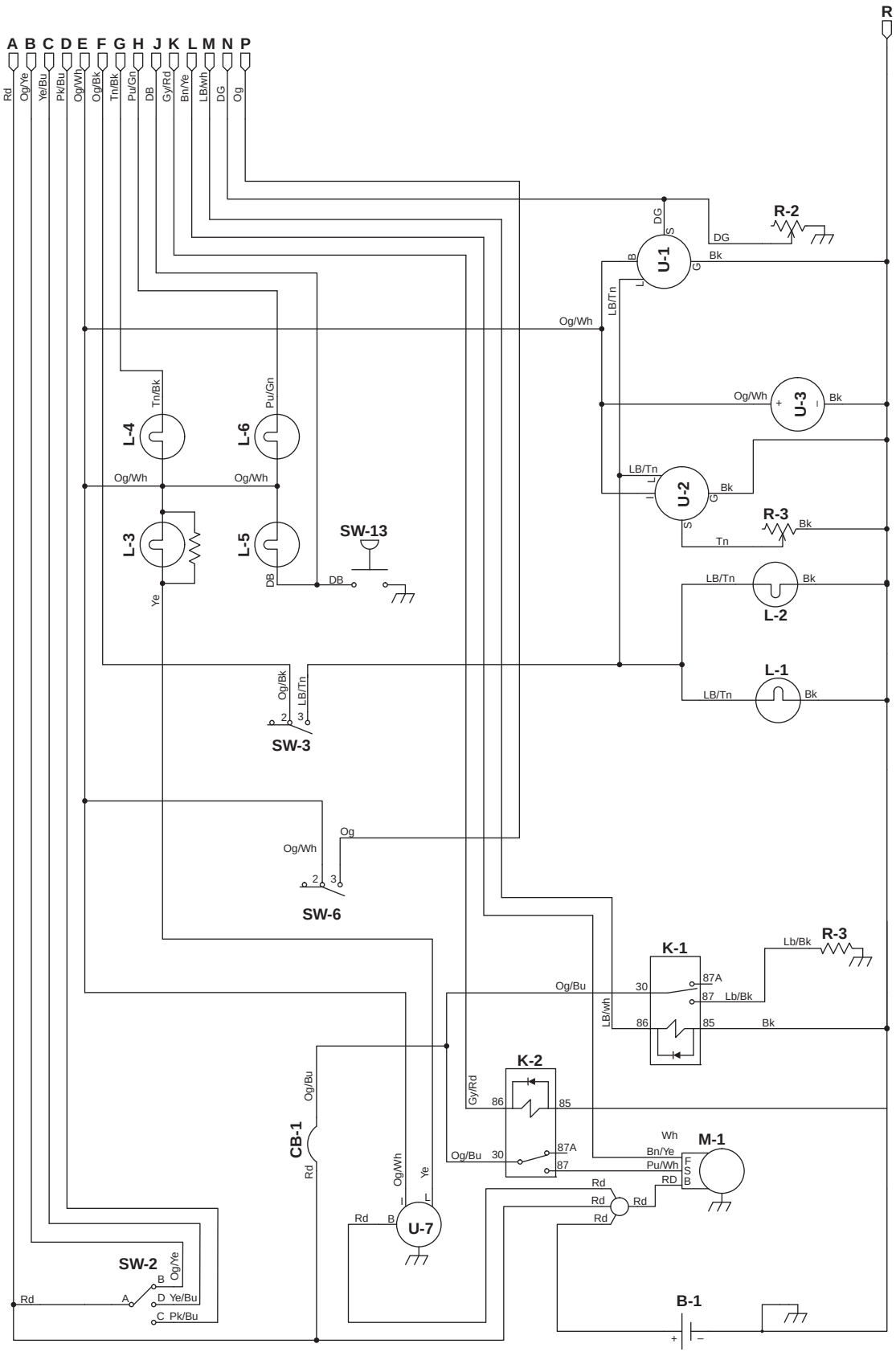


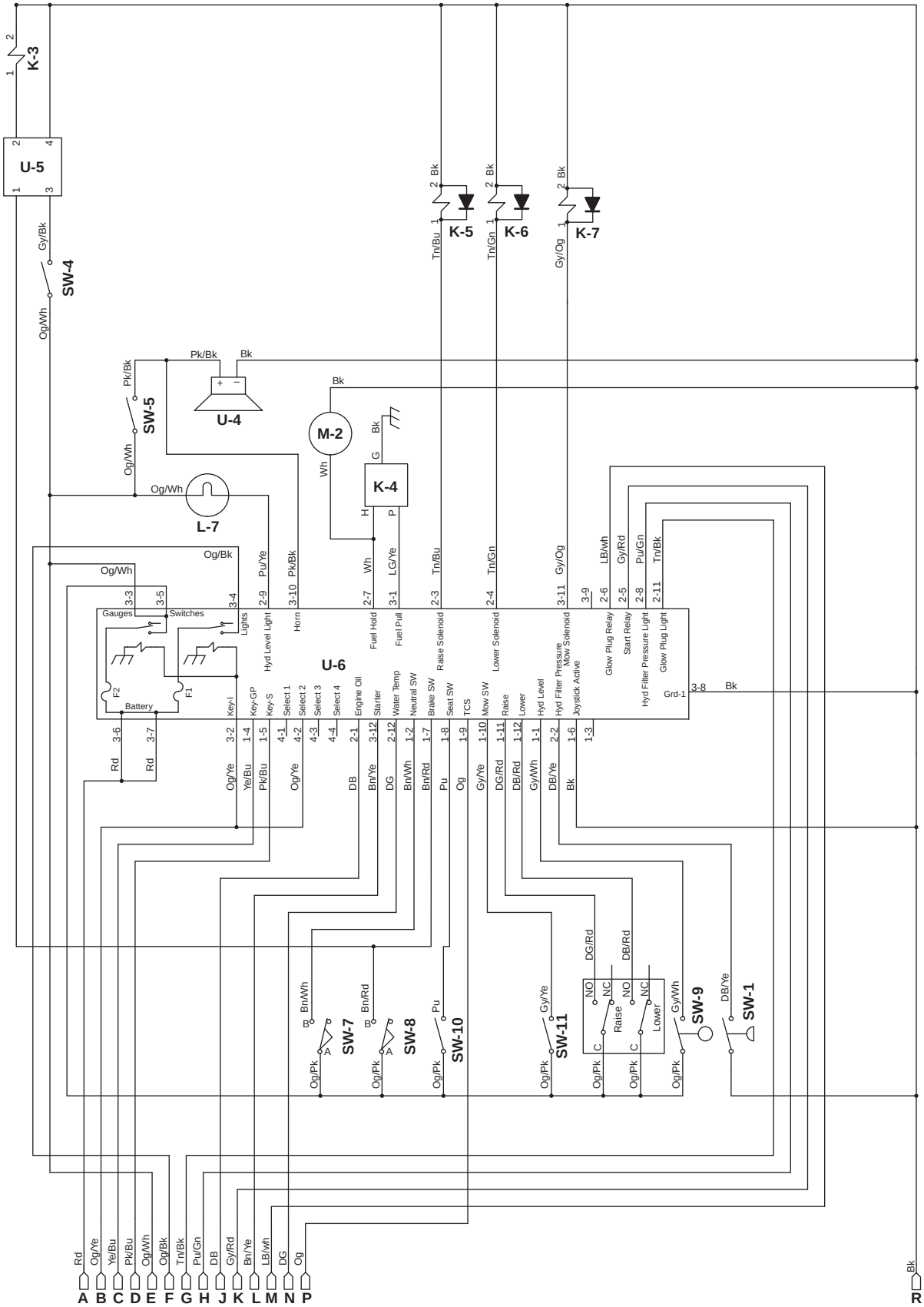
	Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	4134615	1	O-Ring	
	2	4134616	1	O-Ring	
●	3	NS	1	O-Ring	
●	4	NS	1	Temper Load Ring	
	5	4134617	1	Neutral Return Spring	
●	6	4134618	1	Piston Ring Kit	
	7	4134619	1	Gerotor	
●	8	NS	1	Suction FIlter Adapter Seal	
	9	4134620	1	O-Ring	
●	10	NS	2	Servo Cover Gasket	
	11	4134621	2	O-Ring	
	12	4134622	1	Spool Assembly	
●	13	NS	1	• O-Ring	
●	14	NS	1	• Backup Ring	
	15	4134623	1	Sleeve Assembly	
●	16	NS	1	• O-Ring	
●	17	NS	1	• Backup Ring	
●		5003034	1	Seal Kit	Includes all Items marked ●

> Change from previous revision

41.1 Electrical Schematic

Serial No. All



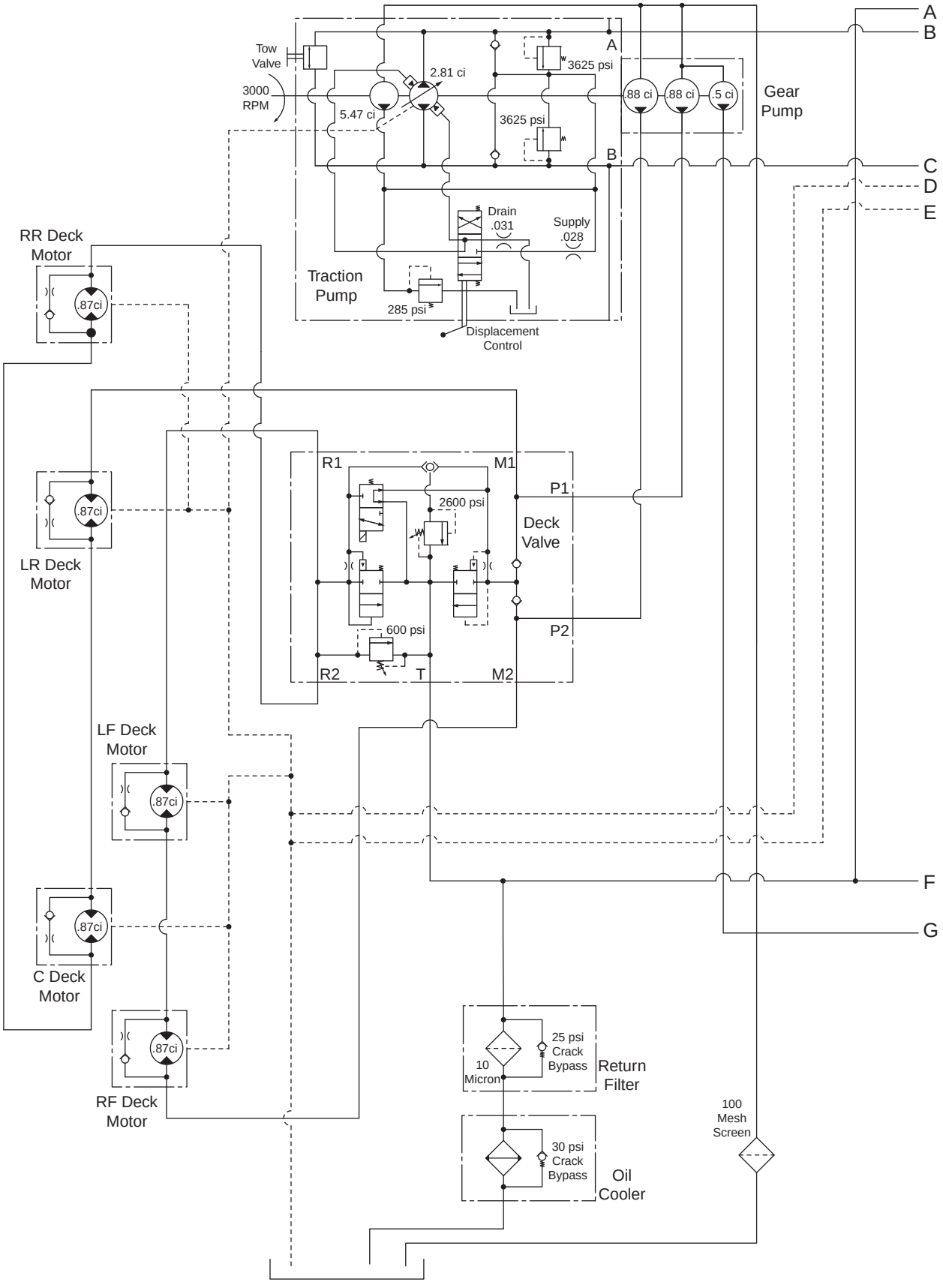

K-3
U-5
SW-4
Gy/Bk
Og/Wh
K-5
K-6
K-7
Tn/Bu
Tn/Gn
Gy/Og
Bk
U-4
SW-5
Pk/Bk
M-2
K-4
L-7
U-6
Gauges
Switches
Lights
Battery
Hyd Level Light
Horn
Fuel Hold
Fuel Pull
Raise Solenoid
Lower Solenoid
Mow Solenoid
Joystick Active
Glow Plug Relay
Start Relay
Hyd Filter Pressure Light
Glow Plug Light
Key-GP
Key-S
Key-I
Select 1
Select 2
Select 3
Select 4
Engine Oil
Starter
Water Temp
Neutral SW
Brake SW
Seat SW
TCS
Mow SW
Raise
Lower
Hyd Level
Hyd Filter Pressure
SW-7
SW-8
SW-10
SW-11
SW-9
SW-1
Raise
Lower
A B C D E F G H J K L M N P
R

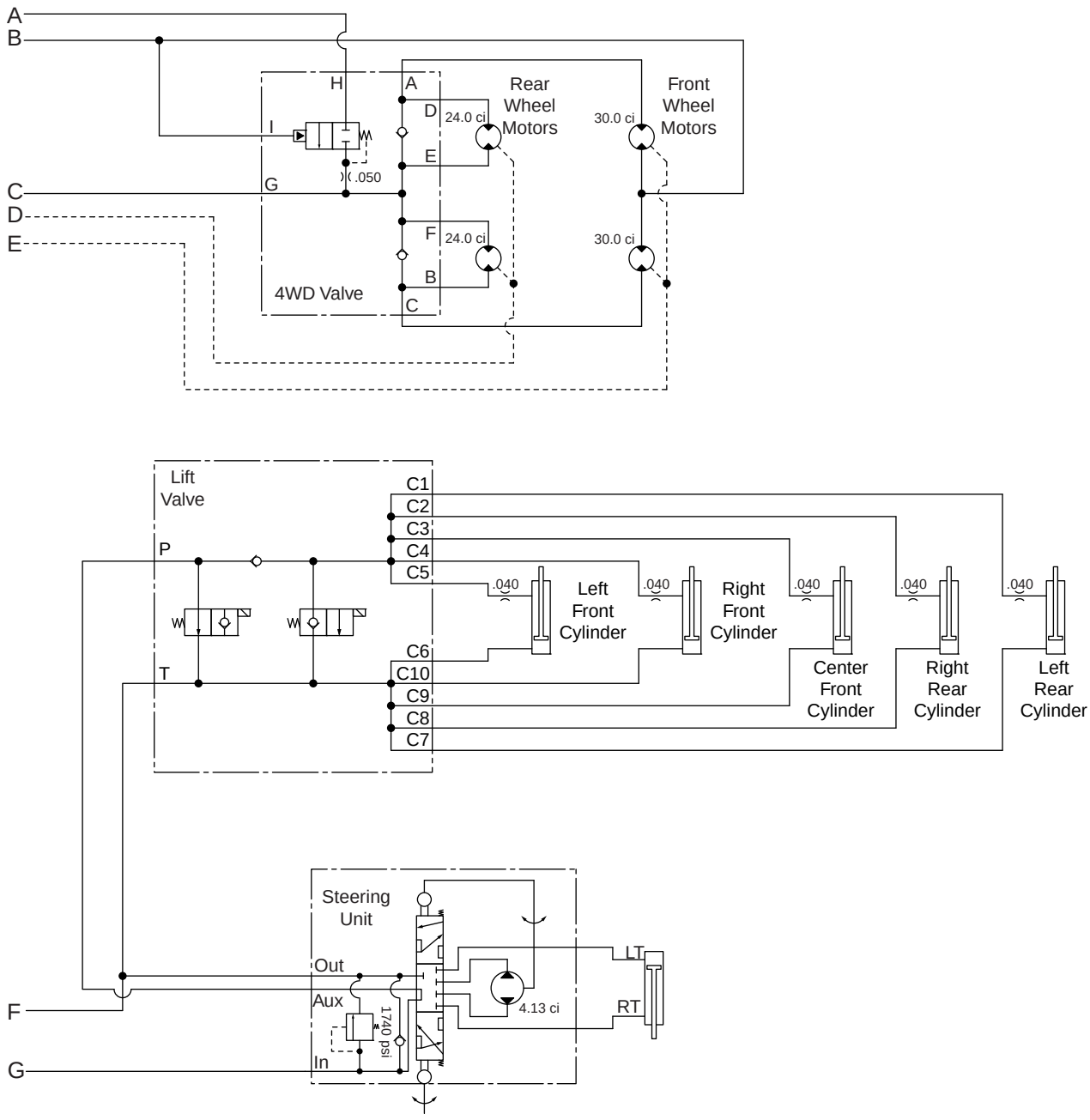
Item	Reference Illustration	Part Number	Description	Serial Numbers/Notes
B-1	**See 28.1**	NS	Battery	
CB-1	**See 28.1**	361439	50 Amp Circuit Breaker (Alternator)	
F-1	**See 28.1**	5003282	20 Amp Fuse (Ignition Circuit)	Included in Controller
F-2	**See 28.1**	5003282	20 Amp Fuse (Lights)	Included in Controller
K-1	**See 28.1**	4193880	Glow Plug Relay	
K-2	**See 28.1**	4193880	Starter Relay	
K-3	**Not Shown**		Cruise Control Magnet (Option)	
K-4	**Not Shown**	4134270	Fuel Solenoid	Included with Engine
K-5	**See 36.1**	4134530	Raise Solenoid Coil	
K-6	**See 36.1**	4142009	Lower Solenoid Coil	
K-7	**See 33.2**	4134532	Mow Coil	
L-1	**See 28.1**	4123183	Left Headlight Bulb	
L-2	**See 28.1**	4123183	Right Headlight Bulb	
L-3	**See 4.1**	N/S	Alternator Light	Included in 4130148
L-4	**See 4.1**	N/S	Glow Plug Light	Included in 4130148
L-5	**See 4.1**	N/S	Engine Oil Pressure Light	Included in 4130149
L-6	**See 4.1**	N/S	Hydraulic Filter Pressure Light	Included in 4130149
L-7	**See 4.1**	366751	Hydraulic Level Light	
M1	**Not Shown**	556988	Starter Motor	Included in Engine
M2	**See 16.1**	4132489	Fuel Pump	
R-1	**See 16.1**	3006337	Fuel Sender	
R-2	**See 14.1**	364501	Temperature Sender	
R-3	**Not Shown**	556996	Glow Plugs	Included in Engine
SW-1	**See 19.1**	556419	Hydraulic Filter Pressure Switch	
SW-2	**See 4.1**	4128888	Ignition Switch	OFF-None Run - A+B GP - A+B+D Start - A+B+C+D
SW-3	**See 4.1**	4130132	Light Switch	
SW-4	**Not Shown**		Cruise Control Switch (Option)	
SW-5	**See 4.1**	4130133	Horn Switch	
SW-6	**See 4.1**	4137524	Traction Control System Switch	
SW-7	**See 5.1**	4125831	Neutral Proximity Switch	
SW-8	**See 6.1**	4125831	Parking Brake Proximity Switch	
SW-9	**See 16.1**	3001279	Hydraulic Oil Level Switch	
SW-10	**See 3.1**	4139450	Seat Switch	68098 - 1601 ~ 1750
SW-10	**See 3.2**	4210500	Seat Switch	68098 - 1751 and Up
SW-11	**See 4.1**	2721505	Mow Switch	
SW-12	**See 4.1**	1004290	Joystick	
SW-13	**Not Shown**	554018	Engine Oil Pressure Switch	Included in Engine

Item	Reference Illustration	Part Number	Description	Serial Numbers/Notes
U-1	**See 4.1**	3005121	Temperature Gauge	
U-2	**See 4.1**	365943	Fuel Gauge	
U-3	**See 4.1**	4129683	Hour Meter	
U-4	**See 4.1**	366670	Horn	
U-5	**Not Shown**		Cruise Control Module (Option)	
U-6	**See 28.1**	4122841	Controller	
U-7	**Not Shown**	5000938	Alternator	Included in Engine

42.1 Hydraulic Schematic

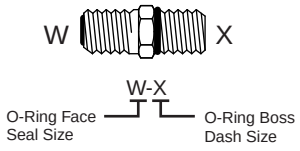
Serial No. Steering Valve:68098 - 1651 ~ 1808
Serial No. Deck Valve: 68098 - 1651 ~1825



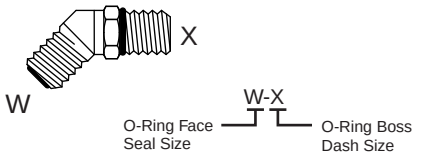

A
B
C
D
E
F
G
H
I
A
D
E
F
B
C
24.0 ci
24.0 ci
30.0 ci
30.0 ci
.050
Rear
Wheel
Motors
Front
Wheel
Motors
4WD Valve
Lift
Valve
P
T
C1
C2
C3
C4
C5
C6
C10
C9
C8
C7
.040
.040
.040
.040
.040
Left
Front
Cylinder
Right
Front
Cylinder
Center
Front
Cylinder
Right
Rear
Cylinder
Left
Rear
Cylinder
Steering
Unit
Out
Aux
In
1740 psi
4.13 ci
LT
RT

44.1 O-Ring Chart

Serial No. All



Straight Adapter



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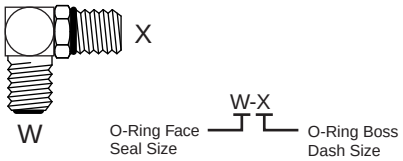

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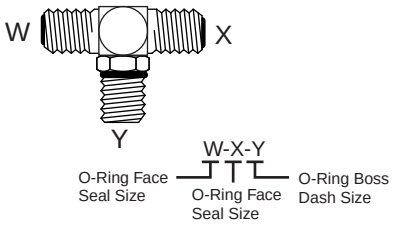

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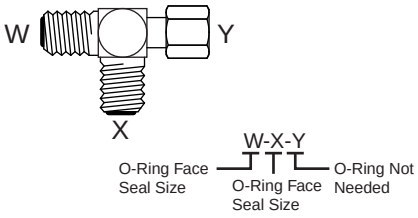
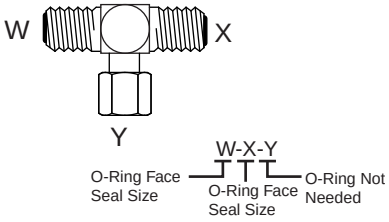
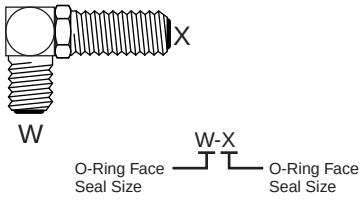


Swivel Run Tee



Swivel Branch Tee



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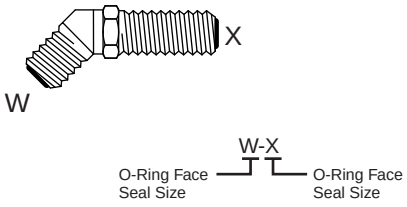

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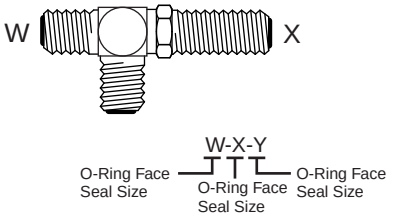

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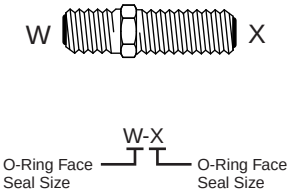

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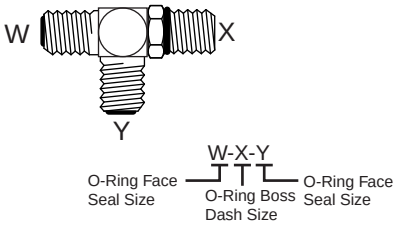

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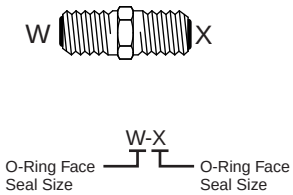

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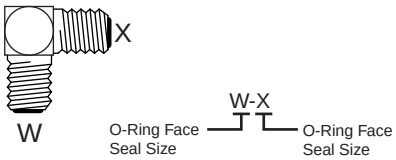

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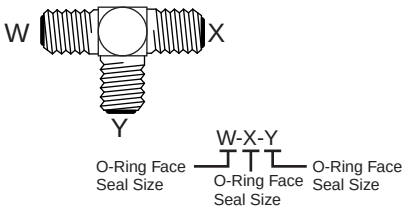

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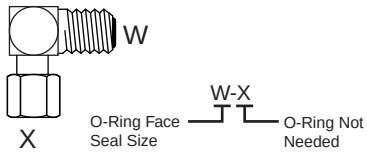
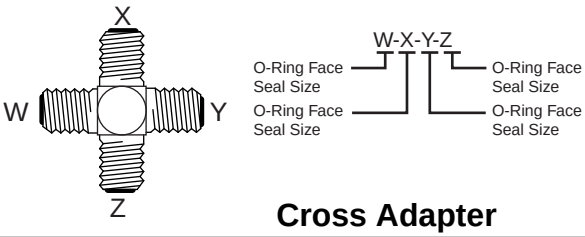


90° Swivel Adapter



Cross Adapter

Plug

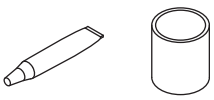
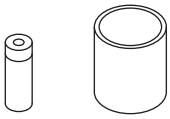
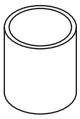
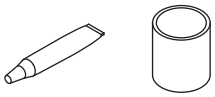
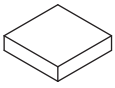
Adapter Part Number.	Dash Size	Adapter Type	(W) O-Ring	(X) O-Ring	(Y) O-Ring	(Z) O-Ring
339974	4-6	Straight Adapter	339908	339897		
339977	6-4	Straight Adapter	339909	339896		
339979	6-6	Straight Adapter	339909	339897		
339985	8-10	Straight Adapter	339910	339899		
339989	10-10	Straight Adapter	339911	339899		
339993	12-10	Straight Adapter	339912	339899		
339994	12-12	Straight Adapter	339912	339900		
339996	12-16	Straight Adapter	339912	339901		
339998	16-12	Straight Adapter	339913	339900		
339999	16-16	Straight Adapter	339913	339901		
340002	16-20	Straight Adapter	339913	339902		
340007	6-4	Straight Adapter	339906	339896		
340009	10-10	Straight Adapter	339911	339899		
340026	6-6	45° Adapter	339909	339897		
340030	8-10	45° Adapter	339910	339899		
340059	6-4	90° Adapter	339909	339896		
340061	6-6	90° Adapter	339909	339897		
340070	10-10	90° Adapter	339911	339899		
340077	16-16	90° Adapter	339913	339901		
340090	24-24	90° Adapter	339915	339903		
340119	6-6-6	Swivel Run Tee	339909	339909		
340122	12-12-12	Swivel Run Tee	339912	339912		
340123	16-16-16	Swivel Run Tee	339913	339913		
340143	6-6-6	Swivel Branch Tee	339909	339909		
340375	6-6	90° Swivel Adapter	339909			
340376	8-8	90° Swivel Adapter	339910			
340377	16-16	90° Swivel Adapter	339913			

SAE Boss O-Rings		
Dash Size	Thread Size	O-Ring
2	5/16-24	459290
3	3/8-24	459291
4	7/16-20	339896
5	1/2-20	459293
6	9/16-18	339897
8	3/4-16	339898
10	7/8-14	339899
12	1 1/16-12	339900
14	1 3/16-12	459296
16	1 5/16-12	339901
20	1 5/8-12	339902
24	1 7/8-12	339903
32	2 1/2-12	339904

ORS Face Seal O-Rings		
Tube Size	Thread Size	O-Ring
4	9/16-18	339908
6	11/16-16	339909
8	13/16-16	339910
10	1-14	339911
12	1 3/16-12	339912
16	1 7/16-12	339913
20	1 11/16-12	339914
24	2-12	339915

> Change from previous revision

> Change from previous revision

Hydraulic Fluid*		
5001405	Two 2-1/2 Gallon Container of ISO VG68 Oil	
5001404	One 5 Gallon Pail of ISO VG68 Oil	
2500548	Two 2-1/2 Gallon Container of 10W30 Oil	
2500546	One 5 Gallon Pail of 10W30 Oil	
503409	Two 2-1/2 Gallon Container of ATF Fluid	
503407	One 5 Gallon Pail of ATF Fluid	
2-Cycle Oil		
554600	Twenty Four 16 Ounce Plastic Container	
554599	Twenty Four 8 Ounce Plastic Container	
Grease		
5000067	One 5 Gallon Pail OO-Grease	
5000068	Twenty Four 8 Ounce Tube OO-Grease	
Paint		
5003469	16 Ounce Gray Aerosol	
554598	Six 12 Ounce Orange Aerosol	
2500789	Twelve 1 Quart Can Orange	
546409	Two 1 Gallon Can Orange	
Lapping Compound		
5002488	One 10 Pound Pail of 80 Grit	
5002490	One 25 Pound Pail of 80 Grit	
5002489	One 10 Pound Pail of 120 Grit	
5002491	One 25 Pound Pail of 120 Grit	
Specialty Compound		
365422	5.3 Ounce Tube of Electrical Insulating Gel	
5001581	14 Ounce Can of Lubriplate Multi Lube A	
Biodegradable Hydraulic Fluid*		
5003102	One 55 Gallon Drum TGTSP GreensCare 68	
5003103	One 5 Gallon Pail TGTSP GreensCare 68	
5003105	One 55 Gallon Drum TGTSP GreensCare 46	
5003104	One 5 Gallon Pail TGTSP GreensCare 46	
4115976	One 55 Gallon Drum TGTSP GreensCare 32	
4115977	One 5 Gallon Pail TGTSP Greens Care 32	
5003106	Twenty Four 14 Ounce Tube Greens Care Grease	
O-Ring Kit		
5002452	SAE O-Ring Boss (3/32 ~ 2" Tube O.D.)	
5002453	Common O-Ring Kit	
5002454	O-Ring Face Seal ORFS (-4 ~ -24 ORS Tube Size)	
Right Start Kit for New Machines		
See your local TGTSP Dealer		
On-Time Maintenance Kit		
See your local TGTSP Dealer		

* Refer to the Parts & Maintenance manual for the correct hydraulic oil requirements for your machine.

Textron Golf, Turf & Specialty Products offers a High Usage Parts Catalog illustrating commonly used Parts through easy to read line Drawings. See your local TGTSP Dealer for a copy.

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A worldwide dealer network and factory trained technicians backed by Genuine Parts provide reliable, high-quality product support.

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